STR-DE1015G

SERVICE MANUAL

US Model
Canadian Model

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SPECIFICATIONS

Audio power specifications

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 8-ohm loads both channels driven, from 20 - 20,000 Hz; rated 100 watts per channel minimum RMS power, with no more than 0.09 % total harmonic distortion from 250 milliwatts to rated output (USA model only).

Amplifier section

POWER OUTPUT

Stereo mode	8 ohms 20 Hz - 20 kHz, THD 0.09%, 100 W + 100 W
Surround mode	(8 ohms at 1kHz, THD 0.8%) Front: 100 W/ch Center*: 100 W Rear*: 100 W/ch * No sound may be output when using certain sound sources and/or sound mode settings.
Dynamic power output	155 W + 155 W, 8 ohms 220 W + 220 W, 4 ohms
Harmonic distortion at rated output	Less than 0.09% (Direct Pass)
Frequency response	PHONO: RIAA equalization curve ±0.5 dB CD, TAPE, DAT/MD, LD/DVD, TV/DBS, VIDEO: 10 Hz - 50 kHz $^{+0.5}_{-2}$ dB (Direct Pass)

Input (ANALOG)

	Sensitivity	Impedance	S/N
PHONO	2.5 mV	50 kilohms	75 dB[1] (A, 2.5 mV)
TAPE, DAT/MD, VIDEO, LD/DVD , TV/DBS, CD	150 mV	50 kilohms	82 dB[1] (A, 150mV)

Input (DIGITAL)

	Sensitivity	Impedance	S/N
LD/DVD AC-3 RF	–	75 ohms	100 dB (A, 20 kHz LPF)
LD/DVD, CD, DAT/MD OPTICAL	–	–	100 dB (A, 20 kHz LPF)

[1] '78 IHF

— Continued on next page —

FM STEREO FM-AM RECEIVER

MICROFILM

SONY®

Outputs
REC OUT VIDEO 1, 2
(AUDIO) OUT:
Voltage 150 mV,
Impedance 10 kilohms
WOOFER OUT
Voltage: 2 V
Impedance: 1 kilohms
PHONES: Accepts low and high impedance headphones

BASS BOOST +6 dB at 50 Hz

Digital signal processor section

Modulation (A/D conversion) High Density Linear Converter

Demodulation (D/A conversion) High Density Linear Converter (Advanced Pulse D/A converter)

Sampling frequency 48 kHz

Surround
LFE MIX
MUTE, -20 ~ 0 dB, 0.5 dB step
D.RANGE COMP
OFF, 0.1 ~ 0.9, STD, MAX
REAR level
–20 ~ +10 dB, 0.5 dB step
CENTER level
–20 ~ +10 dB, 0.5 dB step
SUB WOOFER level
–20 ~ +10 dB, 0.5 dB step
WALL
17-step adjustable
SEAT
L/R 17-step adjustable
F/R 17-step adjustable
EFFECT
21-step adjustable
REVERB time
17-step adjustable

The available parameters are different for each sound field, see page 37 for details.

Equalizer
Band
BASS/TREBLE
Turnover frequency
BASS: 99 Hz ~ 992 Hz
TREBLE: 1.0 kHz ~ 8.6 kHz
Level
±10 dB, 0.5 dB step

FM tuner section

Tuning range 87.5 - 108.0 MHz

Antenna terminals 75 ohms, unbalanced

Sensitivity Mono: 18.3 dBf, 4.5 µV
Stereo: 38.3 dBf, 45 µV

Usable sensitivity 11.2 dBf, 2 µV (IHF)

S/N Mono: 76 dB
Stereo: 70 dB

Harmonic distortion at 1 kHz Mono: 0.3 %
Stereo: 0.5 %

Separation 45 dB at 1 kHz

Frequency response 30 Hz - 15 kHz $^{+0.5}_{-2}$ dB

Selectivity 60 dB at 400 kHz

AM tuner section

Tuning range With 10 kHz interval*
530 - 1710 kHz
With 9 kHz interval:
531 - 1710 kHz

Antenna Loop antenna

Usable sensitivity 50 dB/m (at 1,000 kHz or 999 kHz)

S/N 54 dB (at 50 mV/m)

Harmonic distortion 0.5 % (50 mV/m, 400 kHz)

Selectivity At 9 kHz: 35 dB
At 10 kHz: 40 dB

* You can change the AM tuning interval between 9 kHz and 10 kHz. After tuning in any AM station, turn off the receiver. While holding down the PRESET + button, press the POWER switch. When you change the interval, all the preset stations will be erased. To reset the interval, repeat the same procedure.

Video section

Inputs 1 Vp-p 75 ohms

Outputs 1 Vp-p 75 ohms

General

System
Tuner section: PLL quartz-locked digital synthesizer system
Preamplifier section: Low-noise NF type equalizer
Power amplifier section: Pure-complimentary SEPP

Power requirements 120 V AC, 60 Hz

Power consumption USA models: 290 W
Canada models: 480 VA

AC outlets 2 switched, total 120 W

Dimensions 430 x 155 x 350 mm
(17 x 6 1/8 x 13 7/8 inches)

Mass (Approx.) 11.4 kg (25 lb 3 oz)

Supplied accessories
- FM wire antenna (1)
- AM loop antenna (1)
- Remote commander (remote) (RM-H501) (1)
- Size AA (R6) batteries (2)
- IR repeater (1)
- Video Cable (1)
- Control S cable for TV (1)

Design and specifications are subject to change without notice.

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Notes on chip component replacement
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth Ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

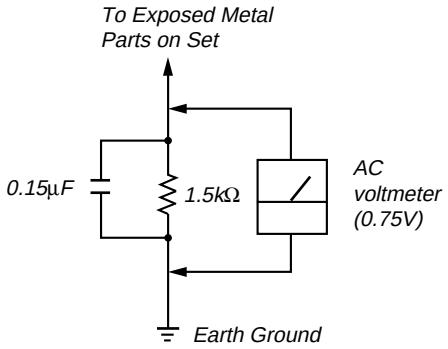
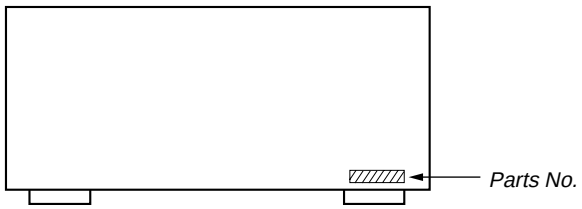


Fig. A. Using an AC voltmeter to check AC leakage.

MODEL IDENTIFICATION — BACK PANEL —



Parts No.	Model
4-989-885-4□	US model
4-989-885-5□	Canadian model

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
SERVICING NOTE

ALL CLEAR

Mode which erases all the user memories registered in this unit and sets to setting at shipment.

Procedure:

1. With the power turned OFF, press the [POWER] button while pressing the [MODE] button, [AUDIO FUNCTION >] and [VIDEO FUNCTION >] button simultaneously to turn ON the power.
2. ALL CLEAR 3/5 will be displayed on the fluorescent indicator tube, and ALL CLEAR will be executed.

FACTORY SET

Mode which sets the memory of the unit to the setting of adjustment and check at factory. (Not used for servicing.)

Procedure:

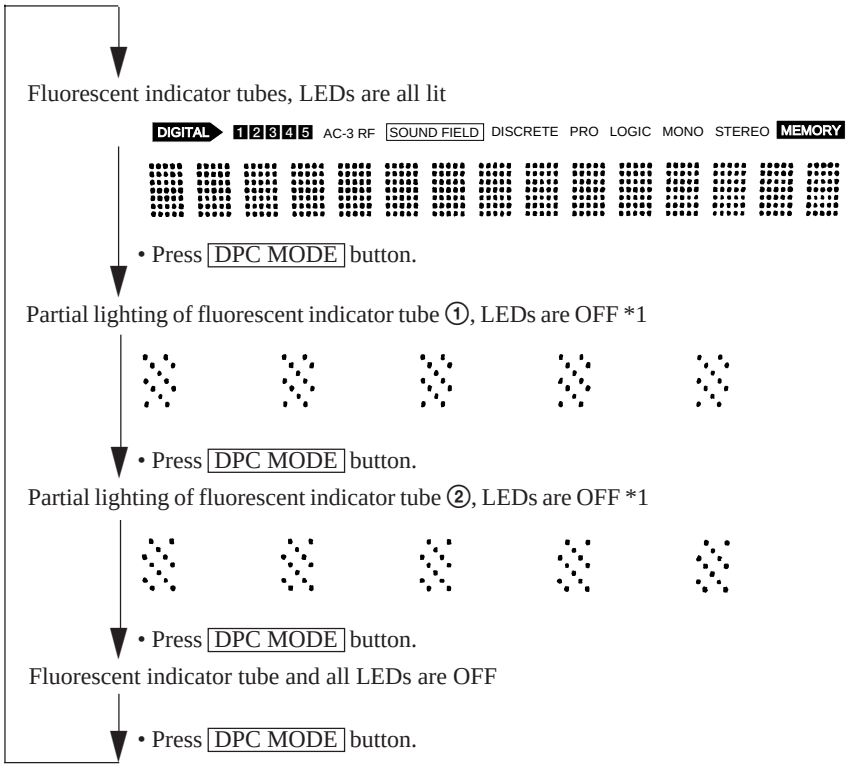
1. With the power turned OFF, press the [POWER] button while pressing the [MODE] button and [AUDIO FUNCTION >] button simultaneously to turn ON the power.
2. FACTORY SET will be displayed on the fluorescent indicator tube, and FACTORY SET will be executed.

Note: In case you return the unit to the customer, do not perform FACTRY SET. If you do it, perform ALL CLEAR.

Fluorescent indicator tube, LED all lit mode

Procedure:

1. With the power turned OFF, press the [POWER] button while pressing the [MODE] button and [VIDEO FUNCTION >] button simultaneously to turn ON the power.
2. The fluorescent display tubes and LEDs will all light up. Release the buttons in the order of [VIDEO FUNCTION >], and [MODE].
3. The Fluorescent indicator tube display changes as follows by pressing the [DPC MODE].
   (Pressing the other buttons will exit this mode.)


Fluorescent indicator tubes, LEDs are all lit
DIGITAL 1 2 3 4 5 AC-3 RF SOUND FIELD DISCRETE PRO LOGIC MONO STEREO MEMORY
• Press DPC MODE button.
Partial lighting of fluorescent indicator tube ①, LEDs are OFF *1
• Press DPC MODE button.
Partial lighting of fluorescent indicator tube ②, LEDs are OFF *1
• Press DPC MODE button.
Fluorescent indicator tube and all LEDs are OFF
• Press DPC MODE button.

*1 Those other than the POWER LED go OFF.

4. To exit the mode, press the [POWER] button to turn OFF the power.

Adjustment of OSD Screen Position

The position of the screen can be adjusted freely to correct the deviation of the OSD screen caused by the monitor type that users are using.

1. Move the cursor of the remote commander supplied as an accessory, and display the OSD screen.
2. Click the SET UP of the OSD screen.
3. Next click TV SET.
4. Next click GRAPHIC POSITION SET.
5. The screen for adjusting the OSD screen position will be displayed. Adjust the position with the remote commander supplied as an accessory.
6. Click EXIT to end.

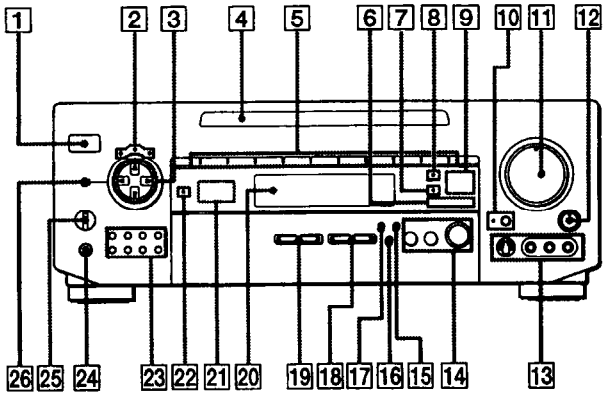
AM Tuning Step 9 kHz/10 kHz Selection

Method:

1. Turn ON the power, set the AUDIO FUNCTION to AM, and turn OFF the power.
2. While pressing the [TUNING +] button or [PRESET TUNING +] button, press the [POWER] button.
3. "AM 9K STEP" or "AM 10k STEP" will be displayed on the FL display tube.

Front Panel Descriptions

You can control the receiver using the front panel instead of the remote. For details of the operations, see the pages in parenthesis.

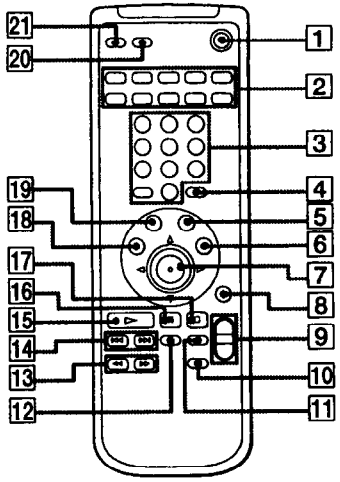


1 POWER switch
2 SUR indicator (56)
EQ indicator (55)
INDEX indicator (59)
3 Digital Processing Controls
4 IR emitter (4)
5 FUNCTION indicators
6 DISCRETE indicator (36)
7 DIRECT PASS indicator (56)
8 LEARNING SENSOR indicator
9 IR sensor (18)
10 BASS BOOST button and indicator (53)
11 MASTER VOLUME control (53)
12 BALANCE control (53)
13 VIDEO 3 input jacks (12)
14 SOUND FIELD buttons (55)
SOUND FIELD ON/OFF button
SOUND FIELD GENRE button
SOUND FIELD MODE button
15 SET UP button (57)
16 INPUT MODE button (53)
17 DIRECT PASS button (56)
18 AUDIO FUNCTION selector (53)
19 VIDEO FUNCTION selector (53)
20 Display
21 IR receptor (15)
22 STANDBY indicator (except for USA and Canadian models)
23 Tuner operation buttons (54)
TUNING (+/–) buttons
PRESET (+/–) buttons
FM MODE button
FM/AM button
SHIFT button
DISPLAY button
24 PHONES jack (53)
25 SPEAKERS selector (10)
26 DPC MODE button (55, 56, 59)

Front Panel Operations (Remote Short-cuts: USA and Canada only)

Remote Descriptions (RM-H501)

Although the direction control button lets you perform almost all of the receiver operations, for certain operations, you can also control the receiver using the other (short-cut) buttons. For details of the operations, see the pages in parenthesis.



1 SYSTEM OFF
2 SYSTEM CONTROL FUNCTION buttons (54)
3 Number buttons
CD, MD, LD, DVD : Selects track numbers (0 selects track 10).
TV, VCR, DBS : selects channel (press ENTER to change the channel).
4 ENTER
TV/VCR/DBS : changes channels when used with buttons 0-9.
5 **DBS MENU* :** displays the menu of the connected DBS tuner.
6 **DBS GUIDE* :** displays the guide of the connected DBS tuner.
7 Direction control button (16)
8 EXIT
Press to exit the current menu (same function as EXIT icon in on screen display).
9 MASTER VOL +/– (26)
10 MUTING
11 WIDE MODE (29)
12 DISC SKIP
MULTI-CD : Press repeatedly to skip between discs.
13 ◀◀/▶▶ buttons
CD : searches tracks (Forward or backward)
Tape, MD, VCR, LD : fast forwards or rewinds
14 I◀◀ /▶▶I buttons
CD, MD, LD : skips tracks.
15 ▶
CD, Tape, MD, LD, VCR : starts play.
16 II
CD, Tape, MD, LD, VCR : pauses play or record (also starts recording with components in record standby).
17 □
CD, Tape, MD, LD, VCR : stops play.
18 **VCR MENU* :** displays the menu of the connected VCR.
19 **GUI :** displays or erases this unit's on-screen display.
20 This button cannot be used.
21 SLEEP (48)

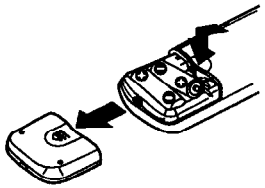
* When you press these buttons, the receiver's on-screen display will disappear. To operate the receiver, press 19.

This section is extracted from instruction manual.

Using the Remote

Inserting batteries into the remote (USA and Canada)

Insert two size AA (R6) batteries with the + and – on the battery compartment. When using the remote, point it at the remote sensor ■ on the receiver.



Notes on the remote

Battery life

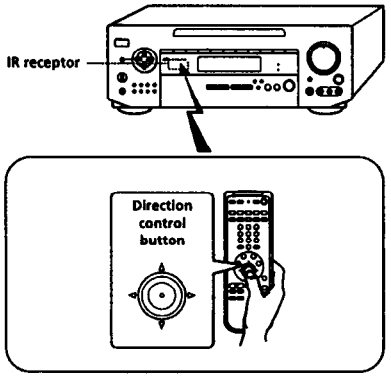
Under normal use, the batteries should last for about 6 months. When the remote no longer operates the receiver, replace both batteries with new ones.

Notes

- Do not leave the remote in an extremely hot or humid place.
- Do not use a new battery with an old one.
- Do not expose the remote sensor to direct sunlight or lighting apparatuses. Doing so may cause a malfunction.
- If you don't use the remote for an extended period of time, remove the batteries to avoid possible damage from battery leakage and corrosion.

Turning on the receiver and bringing up the on-screen display on your TV (or monitor)

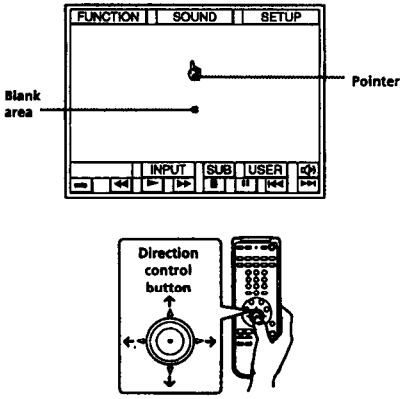
To turn on the receiver, point the remote at the IR receptor, and then press the direction control button on the remote once or twice. To bring up the on-screen display, turn on your TV and set it to the appropriate video input. If you register the IR code of your TV (see "Registering a TV (or Monitor)" on page 17), you can turn on your TV automatically whenever you turn on the receiver.



(continued)

How to use the remote

The supplied remote lets you perform almost all of the receiver operations.
This section describes how to use the direction control button. For certain operations, you can also control the receiver using the other (short-cut) buttons instead of the direction control button.
For details, see page 52.



1 Press the direction control button on the remote once to recall the on-screen display.

2 Press repeatedly (or hold down) the corner of the direction control button (←, →, ↑, ↓) in the direction you want to move the pointer (hand-shaped icon) on the on-screen display.

3 To "click" on an item, position the pointer so that it is on one of the on-screen items, then press and quickly release the center of the direction control button (indicated by "PUSH ENTER").

To make the on-screen display disappear

Position the pointer in the blank area, and press the center of the direction control button.

- **For USA and Canada :** You can also turn the on-screen display on or off by pressing GUI.

Registering a TV (or Monitor)

You must register the IR code of your TV (or monitor) in order to turn on your TV automatically whenever you turn on the receiver.

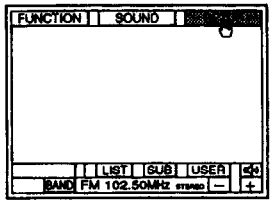
IR code registration is unnecessary in the following case

If your TV is a Sony product that can be controlled by an infrared remote, and it is connected to the receiver by its VIDEO 1 video input jack, you do not need to register its IR code.

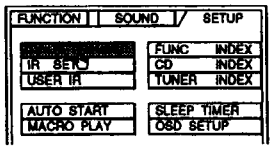
Registering IR codes

1 Turn on the receiver and the TV.
Make sure the input selector on the TV is set to the video input.

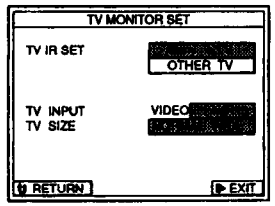
2 Click SETUP in the main menu.



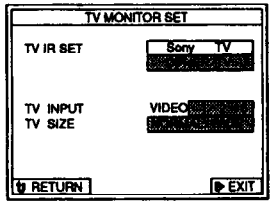
3 Click TV SET.



4 • Sony TV
1 Click Sony TV.
2 Click VIDEO 1, 2 or 3 to select the video input of the TV that is connected to the receiver.
3 If your TV type is a wide screen type (screen ratio:16 x 9), click WIDE (except for Australian and Singaporean models).
The IR codes are automatically registered and registration is complete.

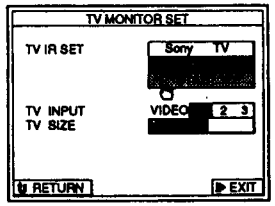


• Non-Sony TV
1 Click OTHER TV.
2 Click VIDEO 1, 2 or 3 to select the video input of the TV that is connected to the receiver.
3 If you are using a wide TV, click WIDE (except for Australian and Singaporean models).
4 Go to step 5.



5 Cover the IR sensor on the TV to prevent accidental operation. Otherwise, the on-screen display may be turned off during the registration procedure.

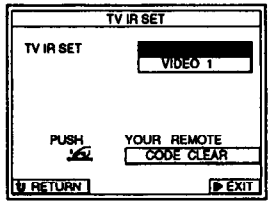
6 Click START.



(continued)

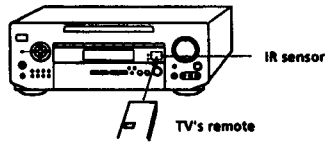
7 When "PUSH YOUR REMOTE" appears in the on-screen display, press the button on the TV's remote that corresponds to the highlighted control button (e.g., POWER).

- If your TV's remote has an independent input selector button (e.g., VIDEO 1).
  Register the IR code of this button when the VIDEO 1 button appears. When you turn on the receiver, the TV switches to the video input automatically.
- If your TV does not have an independent input selector button or has a cyclic input selector button.
  Do not register an IR code of the input selector button. The TV's input cannot be switched automatically when you turn on the receiver. Switch the TV to the video input manually. If you registered an IR code for the VIDEO 1 button, erase the VIDEO 1 code following the steps in "To erase a specific IR code" below.
- If you selected WIDE in step 4.
  Register the IR code for the wide TV mode button on your TV's remote when the WIDE TV DISPLAY MODE button appears.



For Australian and Singaporean models
The on-screen display also includes the following settings for your TV's remote control.

- TV/VIDEO : Use to program the cyclic input selector button on your TV's remote. This allows you to switch the TV's input selector using this unit's remote. Do not program an independant input selector button at this setting.
- WIDE TV DISPLAY MODE: Use to program the wide TV mode button on your TV's remote.



When registering the IR code, be sure to do the following; otherwise, the IR code may not be registered correctly.

- Point the remote at the IR sensor on the receiver from a distance of less than 2 inches (5 cm).
- Hold down the button on the remote for about 2 or 3 seconds until the "RECEIVING" display switches to "RELEASE YOUR REMOTE".
- Keep the remote pointed horizontally at the IR sensor until the code is registered.

8 Repeat step 7 for the remaining buttons that appear in the on-screen display.
If "NG" is displayed, an IR code was not registered correctly. In this case, repeat step 7 again.

To return to the main menu
Click EXIT.

To return to a previous menu
Click RETURN.

To exchange from a non-Sony TV to a Sony TV
Connect the receiver's MONITOR OUT jack to the VIDEO 1 input jack of the Sony TV. Follow the registration steps 1 to 3, then click SONY TV in step 4. Click VIDEO 1 2 3 and/or WIDE to specify VIDEO 1 and/or WIDE if necessary.

Note
Some IR codes may not have been successfully registered, even if "RELEASE YOUR REMOTE" appears on the TV screen. In this case, try registering the IR code again. If the IR code still cannot be registered, follow the procedure described in "Registering Desired Components (User IR setting)" on page 42.

Erasing TV IR codes

Click CODE CLEAR in the TV IR SET menu that appears when you click START.

- **To erase a specific IR code**
  1 Click SINGLE IR CODE CLEAR.
  2 Click the button you want to clear.
  "Are you sure?" appears.
  3 Click YES to erase the code.
  To cancel erasing, click NO.
  To erase another code repeat steps 2 and 3.
- **To erase all the TV IR codes**
  1 Click TV IR CODE CLEAR.
  "Are you sure?" appears.
  2 Click YES to erase the codes.
  "CODE CLEAR!" appears in the display.
  To cancel erasing, click NO.

Registering Audio and Video Components

You must register the IR code of your audio/video component to control your component using the on-screen display.

IR code registration is unnecessary in the following case

If your audio/video component is a Sony product that can be controlled by an infrared remote, and it is connected to the jacks shown in the following table, you do not need to register the IR code.

Receiver jacks	Component to be connected
VIDEO 1	Sony VTR 3 (VHS)
VIDEO 2	Sony VTR 1 (BETA)
VIDEO 3	Sony VTR 2 (8 mm)
LD/DVD	Sony LD player
TV/DBS	Sony DBS receiver
DAT/MD	Sony DAT deck
CD	Sony CD player (CD 1)
TAPE	Sony Tape deck
MONITOR	Sony TV (via its VIDEO 1 jack)

The following cases require registration of Sony products

- When connecting a Sony MD deck to the DAT/MD jacks.
- When connecting a Sony audio product with CONTROL-A1 compatibility.
- When connecting a Sony product to jacks other than those specified in the previous table (e.g., when connecting a Sony LD player to the VIDEO 3 jacks).
- When exchanging a non-Sony audio or video component with a Sony product.

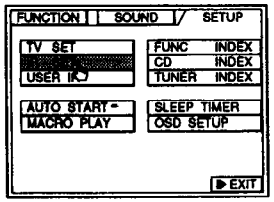
Notes

- If your VCR has a COMMAND CODE selector switch (for VTR1, VTR2, or VTR3), set the switch to the applicable setting. If your VCR has a built-in StarSight tuner, you must set the COMMAND CODE selector switch to VTR 3.
- If your CD changer has a COMMAND MODE selector switch (for CD 1, CD 2, or CD 3), normally it should be set to "CD 1." However, if your CD changer has VIDEO OUT terminals, set the command mode to "CD 2" or "CD 3" ("CD 3" should be used only when making CONTROL-A1 connections).

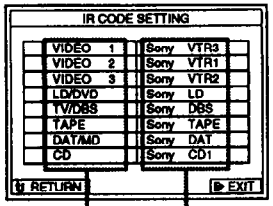
Registering IR codes

1 Click SETUP in the main menu.

2 Click IR SET.

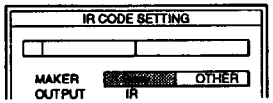


3 Click the name of the receiver's jack you want.



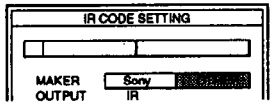
Receiver's jacks — Connected component

4 • Sony product
Click Sony.
The IR codes are automatically registered and registration is complete.



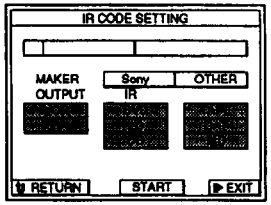
To take advantage of CONTROL-A1 compatible audio components, such as multi-disc CD players, click CONTROL-A1 to select CONTROL-A1.

• non-Sony product
Click OTHER.



(continued)

5 Click the respective component.

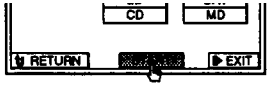


• If the component is not a VCR or laser disc player

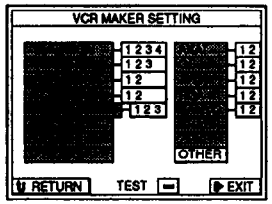
1 Cover the IR sensor on the component to prevent accidental operation during the registration procedure.
2 Click START, then go to step 6.

• If the component is a VCR, DVD or laser disc player:

1 Click START.
A list of other manufacturers appears.



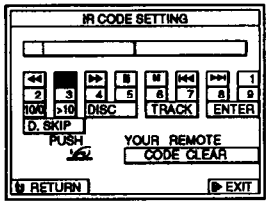
2 Click the manufacturer of the component you want.
The IR codes for that component are automatically registered.

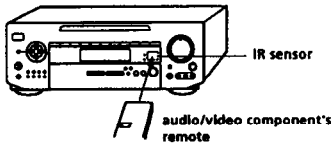


If the manufacturer is not listed, cover the IR sensor on the component to prevent accidental operation during the registration procedure, click OTHER, then go to step 6.

3 Click TEST.
If the selected component turns on, the IR codes have been registered. The registration is complete.
If the component does not turn on:
Click the number button beside the manufacturer's name to select another number, then click TEST again.
If the component still does not turn on:
Cover the IR sensor on the component to prevent accidental operation during the registration procedure is complete, click OTHER, then go to step 6.

6 When "PUSH YOUR REMOTE" appears, press the button **on your audio/video component's remote** that corresponds to the control button highlighted.
[−] is the POWER switch.
After you have registered all the IR codes, the IR CODE SETTING menu reappears.





When registering the IR code, be sure to do the following; otherwise, the IR code may not be registered correctly.

- Point the remote at the IR sensor on the receiver from a distance of less than 2 inches (5 cm).
- Hold down the button on the remote for about 2 or 3 seconds until the "RECEIVING" display switches to "RELEASE YOUR REMOTE".
- Keep the remote pointed horizontally at the IR sensor until the code is registered.

7 Repeat steps 3 to 6 to register IR codes from other components.

To return to the main menu
Click EXIT.

To return to a previous menu
Click RETURN.

To register special IR codes that do not appear as on-screen controls
See "Registering Desired Components (User IR setting)" on page 42.

Notes

- If the IR codes do not operate as expected, perform the registration operation(s) again to make sure the IR codes are registered correctly. If the IR code still cannot be registered, see "Registering Desired Components (User IR setting)" on page 42.
- If you experience difficulty operating the INPUT, number, or ENTER buttons of a VCR or LD player after automatic registration in step 5, register the IR codes for that component manually as shown in step 6.
- When using components made by other manufacturers, certain operations may not be possible even after selecting manufacturer (in step 5). In this case, register the IR codes for those buttons manually as shown in step 6.
- If you register a playback source as TOSHIBA 2 or RCA 2, you cannot turn the TV on or off using the receiver's remote (the power will not go on when you click TEST).
- Do not register the same type of component (e.g., an LD player) at several different functions.
- You can register about 200 IR codes, including user IR codes (see page 42); however, depending on the type of codes recorded, the maximum limit may be less than 100. It may be difficult or impossible to register about 200 codes under the following conditions:
  -When registering from remotes with weak batteries.
  -When registering IR codes that have been registered to a programmable remote (e.g., any IR code not originally supplied in the respective remote).
- Keep the IR sensor away from fluorescent light or direct sunlight. Otherwise, the IR codes may not be registered.
- If the AC power cord is disconnected for about two weeks, the registered IR codes will be erased. "ALL CLEAR!" will appear on the TV screen the next time you turn on the receiver.
- Some remote controls supplied with audio and video components made by other manufacturers may have a special formats. In such cases, it may not be possible for the receiver to learn (or properly execute) their command codes.

Erasing IR codes

Click CODE CLEAR in the IR CODE SETTING menu that appears when you click START.

- **To erase a specific IR code**
  1 Click SINGLE IR CODE CLEAR.
  "SELECT CLEAR CODE KEY" appears.
  2 Click the button you want to clear.
  "Are you sure?" appears.
  3 Click YES to erase the code.
  "CODE CLEAR!" appears.
  To cancel erasing, click NO.
  To erase another code repeat steps 2 and 3.
- **To erase all the IR codes for the current component (e.g., OTHER CD)**
  1 Click (OTHER CD) CODE CLEAR.
  "Are you sure?" appears.
  2 Click YES to erase the codes.
  "CODE CLEAR!" appears.
  To cancel erasing, click NO.
- **To erase all the IR codes**
  1 Click ALL IR CODE CLEAR.
  "Are you sure?" appears.
  2 Click YES to erase the codes.
  "CODE CLEAR!" appears.
  To cancel erasing, click NO.

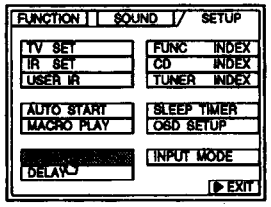
Dolby Digital (AC-3)

To obtain the best possible surround sound, first specify the type of speakers you have connected Then use the test tone to adjust the speaker volumes to the same level.

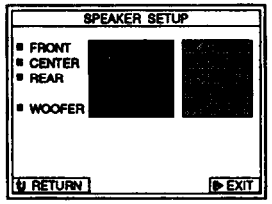
Specifying the speaker type

1 Click SETUP in the main menu.

2 Click SPEAKER.



3 Set the speaker size parameters according to the type of speakers you connected.



Front speaker (FRONT)

- If you connect large speakers that will effectively reproduce bass frequencies, select "LARGE".
- If you cannot obtain sufficient surround effects when playing a Dolby Digital (AC-3) source (a source for which the DISCRETE indicator lights), select "SMALL". The bass frequencies for the front speakers will be output from the sub woofer or other "LARGE" speakers.

Center speaker (CENTER)

- If you connect a large speaker that will effectively reproduce bass frequencies, select "LARGE".
- If you cannot obtain sufficient surround effects when playing a Dolby Digital (AC-3) source (a source for which the DISCRETE indicator lights), select "SMALL". The bass frequencies for the center speaker will be output from the sub woofer or other "LARGE" speakers.
- If you do not connect the center speaker, select "NO".

Rear speaker (REAR)

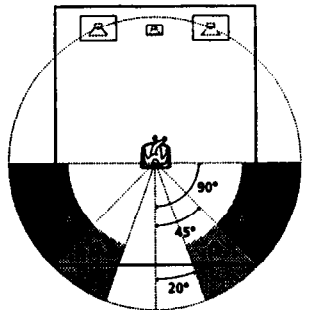
- If you connect large speakers that will effectively reproduce bass frequencies, select "LARGE".
- If you cannot obtain sufficient surround effects when playing a Dolby Digital (AC-3) source (a source for which the DISCRETE indicator lights), select "SMALL". The bass frequencies for the rear speakers will be output from the sub woofer or other "LARGE" speakers.
- If you do not connect rear speakers, select "NO".

Rear speaker place (REAR)

This parameter lets you specify the location of your rear speakers for proper implementation of the Digital Cinema Sound VIRTUAL REAR SHIFT and VIRTUAL MULTI REAR modes. Refer to the illustration below.

- Set to SIDE if the location of your rear speakers corresponds to section ●.
- Set to BEHIND if the location of your rear speakers corresponds to section ●.

This setting effects only the VIRTUAL REAR SHIFT and VIRTUAL MULTI REAR modes.
This parameter does not appear when the rear speaker parameter is set to "NO".



Sub woofer (WOOFER)

- If you connect a sub woofer, select "YES" to output the LFE (low frequency extension) channel from the sub woofer.
- If you do not connect a sub woofer, select "NO". This activates the Dolby Digital (AC-3) bass redirection circuitry and outputs the LFE signals from other speakers.
- In order to take full advantage of the Dolby Digital (AC-3) bass redirection circuitry, we recommend setting the sub woofer's cut off frequency as high as possible.

Adjusting the speaker volume

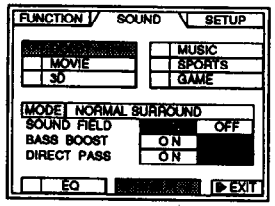
Use the remote while seated in your listening position to adjust the volume of each speaker.

Note

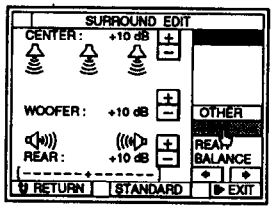
This unit incorporates a new test tone with a frequency centered at 800 Hz for easier speaker volume adjustment.

1 Click SOUND in the main menu.

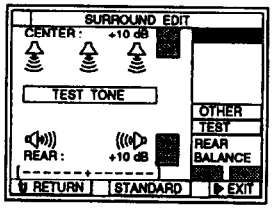
2 Click DOLBY, then click SUR.



3 Click TEST.
You will hear the test tone from each speaker in sequence.



4 From your listening position, use the remote to adjust the volume of each speaker so that the test tone can be heard at the same level from all speakers.



Center speaker level (CENTER)

- Click CENTER + or – to adjust the level of the center speaker from –20.0 dB to +10.0 dB (0.5 dB/steps).
- During this adjustment, the test tone is emitted from the center speaker.

Rear speaker level (REAR)

- Click REAR + or – to adjust the level of the rear speakers from –20.0 dB to +10.0 dB (0.5 dB/steps).
- During this adjustment, the test tone is emitted from both speakers simultaneously.

Rear speaker balance (--+--)

- Click REAR BALANCE ⇐ or ⇒ to adjust the balance between the rear left and right speakers ±8 dB (1 dB/steps).
- During this adjustment, the test tone is emitted from both speakers simultaneously.

5 Click TEST again to turn off the test tone.

To return to the main menu
Click EXIT.

To return to a previous menu
Click RETURN.

You can adjust all speakers at one time
Use MASTER VOL on the remote.

To adjust the subwoofer level (WOOFER)
Click WOOFER + or – to adjust the level of the sub woofer from –20.0 dB to +10.0 dB (0.5 dB/steps). This adjustment is not possible during the test tone operation.

Note

The test tone cannot be used in the following cases:

- When the DIRECT PASS is ON
- When the "MUTING" is displayed
- When the SOUND FIELD is OFF
- When a sound field genre other than "DOLBY" is selected.

Selecting a Component

You can listen to or watch a connected component by clicking on the component in the on-screen display.

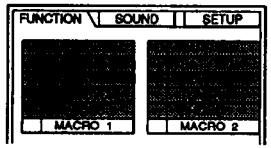
Before you begin, make sure you have:

- Registered the IR codes for the connected components (see pages 17 to 21).
- Turned MASTER VOL on the front panel to the leftmost position (0) to avoid damaging your speakers.
- Set the Auto Play function to ON. (The factory setting is ON, see page 44.)
- Selected the appropriate speaker system (see page 10).
- Set BALANCE on the front panel to the center position.

1 Press the button on the remote once or twice to turn on the receiver.
The TV turns on automatically, and the main menu appears. If the TV does not turn on automatically, see pages 17 to 18 to register your TV.

2 Click FUNCTION in the main menu.

3 Click the component you want.
The control buttons appear, then the component turns on and starts playing automatically.



To listen to or watch	Click*1
TV programs*2 or video tapes	VIDEO 1, VIDEO 2 or VIDEO 3
Laser Discs (LD) or DVD	LD/DVD
TV programs (only for Sony TV with TV OUT jacks) or Digital Broadcasting Satellites (DBS)*2	TV/DBS (or TV)
Digital Audio Tapes (DAT) or MiniDiscs (MD)	DAT/MD
Compact Discs (CD)	CD
Radio programs*4	TUNER
Records	PHONO*5
Analog audio tapes	TAPE

*1 If you connect the component to jacks other than those specified in the table, click the appropriate one according to your connection (e.g., If you connect the LD player to the VIDEO 3 jacks, click VIDEO 3 to watch the LD).
*2 For details about watching TV or controlling a DBS receiver, see page 28.
*4 For details about tuning radio stations, see page 29.
*5 Control buttons do not appear when you select PHONO.

4 Use MASTER VOL + or – on the remote to adjust the volume.
To adjust the volume of the TV's speakers, use the volume control on the TV.

To operate the selected component, click the control buttons. For details of the functions of the control buttons, see the instructions of the selected component. To display other control buttons for the selected component, click SUB.

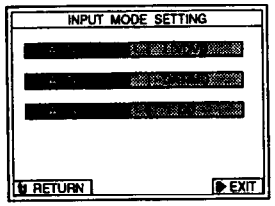
Control buttons

To turn off the selected component
Click ⏻ in the bottom left corner. To turn on the component, follow steps 1 to 3.

To turn off all components
Press SYSTEM OFF (for USA and Canadian models) or ALL OFF (for other models) on the remote control.

To mute the sound
Click 🔊. The icon changes to 🔇. "MUTING" appears in the display on the front panel. To turn the sound back on, click on the icon again.
- **For USA and Canada :** You can also mute the sound by pressing MUTING on the remote control. "MUTING" appears in the display on the front panel. Press again to restore the sound.

To listen to digital program sources
Click SETUP in the main menu, then click INPUT MODE.



Click the buttons next to each program source to select the audio signals you desire:
- AUTO : gives priority to digital signals when there are both digital and analog connections. If there are no digital signals, analog is selected.
- ANALOG : selects the analog audio signals input to the AUDIO IN (L and R) jacks.
- DIGITAL (OPTICAL) : selects the digital audio signals input to the DIGITAL OPTICAL IN jack.
- AC-3 RF : selects the digital RF audio signals input to the DIGITAL AC-3 RF IN jack (LD/DVD only).

You can play video and audio components at the same time
Play a video component you want, then play audio component. Make sure the AUTO PLAY function is set to *off* (see page 44).

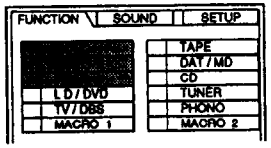
Notes
- Components of the same type (e.g., Sony LD player) will be controlled simultaneously by the on-screen controls.
- If a component does not respond, it may be because IR codes from the IR emitter are not fully reaching the component. In this case, connect the extra IR repeater (supplied) and position it facing the component (see "Infrared (IR) Repeater Hookups" on page 7). If the IR repeater is already connected, change the position of the IR repeater or program source.

Watching TV or Video Programs

Use the TV tuner built-in to the VCR to watch TV programs; otherwise, the on-screen display will change to a TV program when you switch channels. Also, set the VCR's TV tuner to skip channels where there is no broadcast so that an image is always displayed on the TV screen; otherwise, the on-screen display will be distorted.

Before you begin, make sure you have:
- Connected your TV and VCR to the receiver (see pages 11 to 12).

1 Select the appropriate VCR component (e.g., VIDEO 2).
Do not select TV/DBS . If you select TV/DBS, the Auto Play function (page 44) will not operate the next time you select the VCR.



2 Click CH + or – to select the channel you desire.

If the Auto Play function is set to on (page 44).
Be sure to click ■ to stop playback from the VCR before clicking CH + or –.

To watch TV programs using a Sony TV with TV OUT jacks
When connecting a Sony TV with TV OUT jacks, connect the TV OUT jacks to this receiver's TV/DBS IN jacks, then set the TV/DBS function to "Sony TV." This lets you watch TV programs by selecting the TV/DBS function. Also, use the TV's VIDEO LABEL function to set the video input jack (e.g., VIDEO 1 IN) connected to this receiver's MONITOR OUT jack to "RECEIVER."

To change the video input of a Sony VCR
Click SUB, then click INPUT.

To switch the screen size when using a wide TV monitor
Click 🖵 repeatedly to select the screen size you desire. This operation is possible only when TV SIZE in the TV MONITOR SET menu is set to WIDE (see page 17).
- **For USA and Canada :** You can also switch the screen size by pressing WIDE on the remote control repeatedly.
- **For non-Sony TVs :** You must register the IR code for the wide TV mode button on your TV's remote (see pages 17 and 18).

To control a Sony DBS receiver
1 Select the component to which you assigned Sony DBS receiver IR codes (e.g., TV/DBS).
2 Click CURSOR MENU.
The DBS receiver control panel appears.
The icons in the cursor menu have the same function as those on the DBS receiver (except for SELECT, which substitutes for the enter button). Click the boarders at the edge of the screen to move the DBS cursor.

To jump between the current and the previous channels
Click JUMP.

To control StarSight functions of a Sony VCR (USA and Canada only)
1 Select the component to which you assigned StarSight VCR IR codes (e.g., VIDEO 1).
2 Click SUB
3 Click STARSIGHT.
The StarSight control panel appears.
Click the boarders at the edge of the screen to move the StarSight cursor.

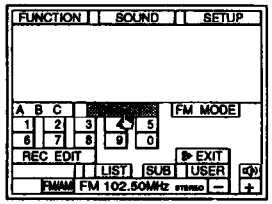
Tuning and Presetting Radio Stations

The receiver lets you directly enter a station's frequency using the number buttons (Direct Tuning). You can also tune a station by scanning stations (Automatic Tuning), and by selecting preset stations (Preset Tuning: see page 30).

1 Click FUNCTION in the main menu, then click TUNER.

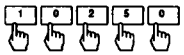
2 Click FM/AM to select FM or AM, then click SUB.

3 Click DIRECT.

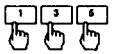


4 Click the number buttons to enter the frequency.

Example 1: FM 102.50 MHz



Example 2: AM 1350kHz



5 Repeat steps 2 to 4 to receive other stations.

If an FM stereo program is noisy
"STEREO" flashes next to the frequency. Click FM MODE to change to monaural (MONO) reception. There will be no stereo effect, but the reception will improve. To return to the auto stereo mode, click this icon again.

If "STEREO" remains off
Click FM MODE, even when an FM stereo broadcast is received.

If an AM program is noisy
Adjust the direction of the AM loop antenna for optimum reception.

If you cannot tune in a station and the entered numbers are flashing
Make sure you have entered the right frequency. If not, reenter the frequency you want.
If the entered numbers still flash, the frequency is not used in your area.

If you enter a frequency not covered by the tuning interval
The entered value is automatically rounded up or down to the closest covered value.
Tuning intervals for Direct Tuning are:
FM: 50 kHz intervals
AM: 10 kHz intervals
(to change to 9 kHz intervals, see page 64)
9 kHz intervals

To watch FM simulcast TV programs
Make sure that you tune in the simulcast program on both the TV (or VCR) and the receiver.

Tuning radio stations by scanning stations (Automatic Tuning)

1 Click FUNCTION in the main menu, then click TUNER.

2 Click FM/AM to select FM or AM.

3 Click + or –.
The frequency indication changes and scanning stops when the receiver tunes in a station. To continue scanning, click + or – again. Click + for a higher station number; click – for a lower one. When the scanning is finished, the receiver starts scanning again.

(continued)

Presetting the radio stations

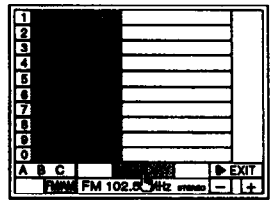
The receiver can store a total of 30 FM or AM stations. You can store up to 10 stations in three different "pages": A, B and C, and recall them later with a simple click. You can also assign names to the preset stations (see page 43).

1 Tune in the station you want.

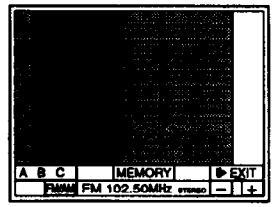
2 Click LIST.
The memory list appears.

3 Click A B C repeatedly to select the page (A, B, or C) you want.

4 Click MEMORY.
MEMORY turns red.



5 Click the number button (0 to 9) you want.
The number button lights up and the station is stored.



6 Repeat steps 1 to 5 to preset up to 30 stations.
You can also use + or – next to the frequency to tune stations from the LIST menu.

To change a preset station
Preset a new station at the number you want to change.

Note
If the AC power cord is disconnected for about 1 week, the preset stations will be cleared. Preset the stations again.

Tuning preset stations (Preset Tuning)

1 Click FUNCTION in the main menu, then click TUNER.

2 Click LIST.

3 Click A B C repeatedly to select the page, then click the number button (0 to 9) of the station you want.

To recall preset stations from the SUB menu
Click SUB, then click A B C repeatedly to select the page, and then click the number button (0 to 9).

Recording

You can control both playback and recording components using the receiver's on-screen display. If necessary, see the instructions of your recording component.

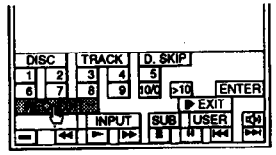
■ Recording to audio tape or MD

1 Click FUNCTION in the main menu.

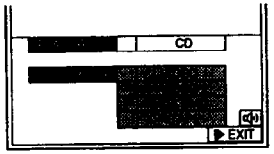
2 Click the playback component you want (e.g., CD).

3 Click SUB.

4 Click REC EDIT.

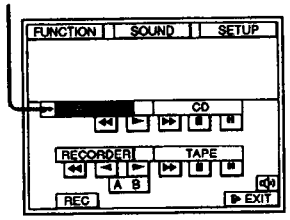


5 Click a recording component (e.g., TAPE).



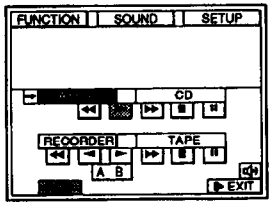
The control buttons for both components appear. "PLAYER" for the playback component, and "RECORDER" for the recording component. The arrow indicates the operative component.

arrow



6 Insert a blank tape into the recording component (tape deck, etc.) and adjust the recording level, if necessary.

7 Click REC to start recording, then click the play button (►) on the PLAYER control.
Recording starts. **Do not click any RECORDER controls while recording. This will cut off the source being recorded.**



To stop recording
Click the recording component's ■ control.

To control the recorder after recording
Click RECORDER. RECORDER becomes the operative component and you can use the RECORDER controls to rewind and playback the recording (etc.).
Click PLAYER to operate the playback component.

To return to the main menu
Click EXIT.

Digital recording
If you connect your CD player and DAT(or MD) deck using digital connections (see page 13) and specify the OPTICAL jacks for both components (see page 27), the previous operations will let you make digital recordings from CD to DAT (or MD).

Notes

- If you leave the REC EDIT menu by clicking FUNCTION, SOUND, or EXIT, recording continues, but control returns to the PLAYER side, even if you previously clicked RECORDER.
- Some tape decks require that you press the ● REC and ► buttons simultaneously to start recording. To perform one-button recording from the on-screen display, be sure to record the recording signal as shown in steps 1 to 7 of "Registering IR codes" (pages 19 to 21).
- When you record on a DAT or MD connected to the DAT/MD REC OUT jacks, sound adjustments do not affect the recording.

(continued)

Playback/Recording

■ Recording other components to video tape

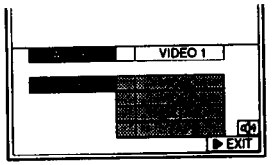
1 Click FUNCTION in the main menu.

2 Click the video playback component you want (VCR 1, VCR 2, LD/DVD, etc.).

3 Click REC.
(If you selected LD/DVD or TV/DBS* in step 2 click SUB.)

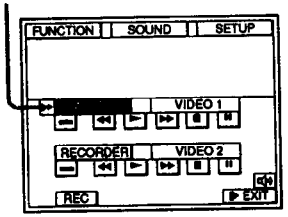
4 Click REC EDIT.
(If you selected LD/DVD or TV/DBS* in step 2 click REC EDIT in the sub menu.)

5 Click a recording component (e.g., VIDEO 2).



The control buttons for both components appear. "PLAYER" for the playback component, and "RECORDER" for the recording component. The arrow indicates the operative component.

arrow



6 Insert a blank tape into the recording component (VCR, etc.) and adjust the recording level, if necessary.

7 Click REC to start recording, then click the play button (►) on the PLAYER control.
Recording starts. **Do not click any RECORDER controls while recording. This will cut off the source being recorded.**

To stop recording
Click the recording component's ■ control.

To control the recorder after recording
Click RECORDER. RECORDER becomes the operative component and you can use the RECORDER controls to rewind and playback the recording (etc.).
Click PLAYER to operate the playback component.

To return to the main menu
Click EXIT.

■ Recording TV programs to video tape

1 Click FUNCTION in the main menu and select a VCR 1 or 2.

2 Tune in the TV program on your video deck.

3 Click REC.

4 Click REC again to start recording.

Using the Pre-programmed Sound Fields

The sound fields let you select a sound characteristic to enhance the type of programs or music you are listening to. To make the most out of this feature, we recommend that you connect center and/or rear speakers.

Sound fields

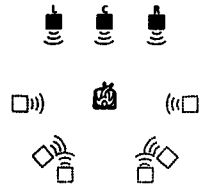
Genre	Mode	Surround effect
DOLBY*1	NORMAL SURROUND	Decodes programs processed with Dolby Surround.
	ENHANCED SURROUND	Additional output from rear speakers when decoding Dolby Surround programs.
MOVIE	CINEMA STUDIO A	Reproduces the sound characteristics of the Sony Pictures Entertainment "Cary Grant Theater" cinema production studio.
	CINEMA STUDIO B	Reproduces the sound characteristics of the Sony Pictures Entertainment "Kim Novak Theater" cinema production studio.
	CINEMA STUDIO C	Reproduces the sound characteristics of the Sony Pictures Entertainment scoring stage.
	SMALL THEATER	Adds acoustic reflections of a theaters to decoded Dolby Surround signals.
	MEDIUM THEATER	
	LARGE THEATER	
	NIGHT THEATER	Compresses the dynamic range for listening at low volume levels.
	MONO MOVIE	Creates a theater-like environment from movies with 2-channel monaural soundtracks.
3D	VIRTUAL ENHANCED A	Uses 3D sound imaging to create virtual rear speakers from the sound of the front speakers without using actual rear speakers. The virtual speakers are reproduced as shown in Ill. Ⓐ on page 34.
	VIRTUAL ENHANCED B	Uses 3D sound imaging to create virtual rear speakers from the sound of the front speakers without using actual rear speakers. The virtual speakers are reproduced as shown in Ill. Ⓑ on page 34.
	VIRTUAL REAR SHIFT	Uses 3D sound imaging to shift the sound of the rear speakers away from the actual speaker position (Ill. Ⓒ on page 34). The shift position differs according to the setting of the rear speaker position (see page 22).
	VIRTUAL MULTI REAR	Uses 3D sound imaging to create an array of virtual rear speakers from a single pair of actual rear speakers (Ill. Ⓓ on page 34). The position of the virtual rear speakers differs according to the setting of the rear speaker position (see page 22).
MUSIC	SMALL HALL	Reproduces the acoustics of a rectangular concert hall. Ideal for soft acoustic sounds.
	LARGE HALL	
	SMALL OPERA HOUSE	Reproduces the acoustics of an opera house. Ideal for musicals and operas.
	LARGE OPERA HOUSE	
	SMALL JAZZ CLUB	Reproduces the acoustics of a jazz club.
	LARGE JAZZ CLUB	
	CHURCH	Reproduces the acoustics of a church.
	LIVE HOUSE	Reproduces the acoustics of a rock and roll club.
	KARAOKE	Reduces the vocal tracks of normal 2-channel stereo music sources.
	ACOUSTIC*2	Reproduces normal 2-channel stereo with equalization (EQ).

(continued)

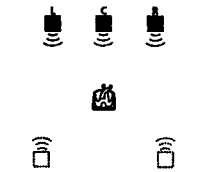
SPORTS	ARENA	Reproduces the feeling of a large concert arena. Great for rock and roll.
	STADIUM	Reproduces the feeling of a large open-air stadium. Great for electric sounds.
GAME	GAME	Obtains maximum audio impact from video game software.

*1 If you select DOLBY, be sure to adjust the volume level of the center and/or rear speakers to get the most out of the Dolby Digital (AC-3) Surround Sound (see page 22).
*2 If you select ACOUSTIC, the hookups of the center and/or rear speakers are unnecessary.

Ill.Ⓐ VIRTUAL ENHANCED (SURROUND) A



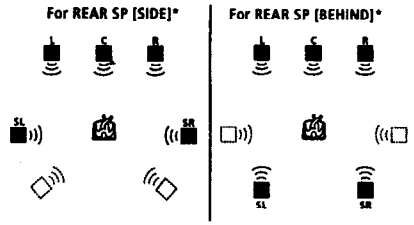
Ill.Ⓑ VIRTUAL ENHANCED (SURROUND) B



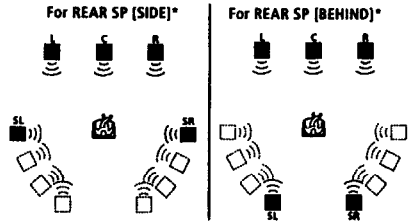
L : Front speaker (left)
R : Front speaker (right)
C : Center speaker
SL : Rear speaker (left)
SR : Rear speaker (right)
□ : Virtual speaker

* See page 10 for details on how to set the rear speaker place.

Ill.Ⓒ VIRTUAL REAR SHIFT



Ill.Ⓓ VIRTUAL MULTI REAR



Customizing the Sound Fields

Each sound field is composed of a tone parameter (bass/treble) and surround sound parameters — variables of sound that create the sound image. You can customize the sound fields by adjusting some of the sound parameters (tone and/or surround sound parameters) to suit your listening situation.
Also, since this receiver uses Digital Signal Processing (DSP), you can adjust the sound parameters electronically. DSP automatically converts analog audio signals to digital, which lets you adjust the sound with virtually no degradation in sound quality.

Once you customize the sound fields, they are stored in memory unless the receiver is unplugged for about 1 week. To change a customized sound field, make new adjustments to the sound field.

Adjustable sound parameters

GENRE	MODE	EFFECT	WALL/SEAT (F-R/L-R)	REV	LFE MIX/D.COMP	R (BAL/LEV)/W LEV*	C LEV*	EQ
DOLBY	NORMAL				●	●	●	●
	ENHANCED				●	●	●	●
MOVIE	C STUDIO A	●			●	●	●	●
	C STUDIO B	●			●	●	●	●
	C STUDIO C	●			●	●	●	●
	S THEATER	●	●	●	●	●	●	●
	M THEATER	●	●	●	●	●	●	●
	L THEATER	●	●	●	●	●	●	●
	N THEATER	●	●	●	●	●	●	●
	MONO MOVIE	●	●	●	●	●	●	●
3 D	VIRTUAL ENHANCED A	●			●	●	●	●
	VIRTUAL ENHANCED B	●			●	●	●	●
	VIRTUAL REAR SHIFT	●			●	●	●	●
	VIRTUAL MULTI-REAR	●			●	●	●	●
MUSIC	S HALL	●	●	●	●	●	●	●
	L HALL	●	●	●	●	●	●	●
	S OPERA HOUSE	●	●	●	●	●	●	●
	L OPERA HOUSE	●	●	●	●	●	●	●
	S JAZZ CLUB	●	●	●	●	●	●	●
	L JAZZ CLUB	●	●	●	●	●	●	●
	CHURCH	●	●	●	●	●	●	●
	LIVE HOUSE	●	●	●	●	●	●	●
	ACOUSTIC							●
	KARAOKE	●				●		●
SPORTS	ARENA	●	●	●	●	●	●	●
	STADIUM	●	●	●	●	●	●	●
GAME	GAME	●	●	●	●	●	●	●

EFFECT : Effect level
WALL : Wall type
SEAT (F-R/L-R) : Seat (Front-Rear/Left-Right)
REV : Reverberation time
LFE MIX : Low Frequency Effect Mix
D.COMP : Dynamic Compression
R (BAL/LEV) : Rear speaker level and balance
W LEV : Woofer Level
C LEV : Center Level
EQ : Equalizer parameter

* These settings are not stored separately for each sound mode. They effects all of the sound modes simultaneously.

(continued)

Notes

- All sound fields can be used with Dolby Digital (AC-3) sound sources.
- The EFFECT parameter allows you to adjust the overall presence of the sound field.
- When DIRECT PASS is set to ON, only the R LEV, W LEV, and C LEV parameters can be adjusted.

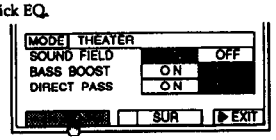
Adjusting the equalizer parameter

Adjust the equalization (bass or treble) of the front, center and rear speakers for optimum sound.
The following adjustments effect all sound fields simultaneously.

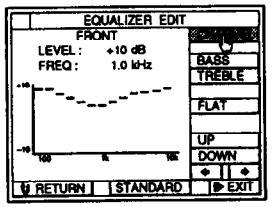
1 While playing a component, click SOUND in the main menu.

2 Click a sound field genre, then click MODE repeatedly until the mode you want appears.

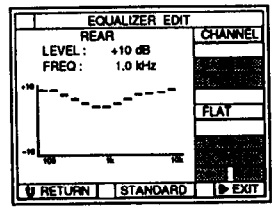
3 Click EQ.



4 Click CHANNEL to select the speakers you want to adjust (FRONT, CENTER or REAR).



5 Click BASS or TREBLE to select a frequency band. Then click UP or DOWN to raise or lower the level of the selected frequency.
Click ◆ or ◆ to select specific frequencies within the frequency band.



6 Repeat steps 4 and 5 as necessary.

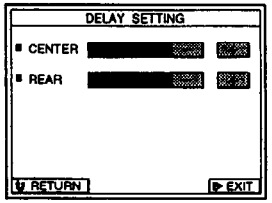
To start adjustment with a flat equalizer curve
Click FLAT.

To reset the equalizer to the factory settings
Click STANDARD.

Note
You may hear some noise as you adjust the parameters.

Adjusting the delay time

Click SETUP in the main menu, then click DELAY.



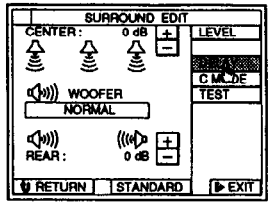
Click the buttons next to each setting to adjust the delay time as you desire.

CENTER
Use this adjustment to add a sense of depth to the center channel. Longer delay times create a greater sense of depth. The CENTER delay can be set from 0 to 5 ms (in 1 ms steps).

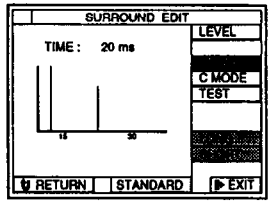
REAR
Use this adjustment to add a sense of depth to the rear channel. Longer delay times create a greater sense of depth. The REAR delay can be set from 0 to 20 ms (in 5 ms steps).

(continued)

3 Click DELAY.



4 Click SHORT or LONG to adjust the delay time.



To reset the delay time to the factory settings
Click STANDARD.

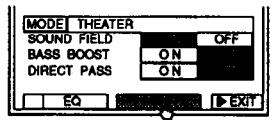
Adjusting surround sound parameters (except for delay time)

Adjust the surround sound parameters to fit your listening situation. See the charts "Adjustable sound parameters . . ." on pages 37 and 38 for parameters you can adjust in each sound field.

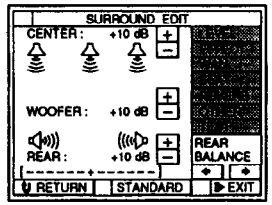
1 While playing a component, click SOUND in the main menu to display the SOUND FIELD SELECT menu.

2 Click a sound field genre, then click MODE repeatedly until the mode you want appears.

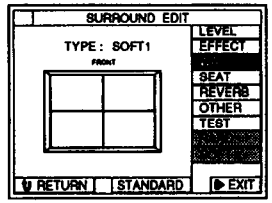
3 Click SUR.



4 Click the icon for the parameter you want to adjust.
The parameter chart for your selection appears. See the next page for details of each adjustment.



5 Click an adjustment icon (+ / –, UP/DOWN, SHORT, LONG, etc.,) to adjust the parameter.



To reset all parameters (except for the delay time) of the current sound field to the factory settings.
Click STANDARD.

Hints for adjusting the parameters

• Wall material simulation (WALL)
When sound is reflected off soft material, such as a curtain, the high frequency elements are reduced. A hard wall is highly reflective and does not significantly affect the frequency response of the reflected sound. The WALL parameter lets you control the level of the high frequencies to alter the sonic character of your listening environment by simulating a softer (SOFT), or harder (HARD) wall. The midpoint designates a neutral wall (made of wood).

• Seat position simulation (SEAT)
(FRONT/REAR and LEFT/RIGHT)
If you sit in the front of a room, you hear more direct sound from the front speakers. As you move to the rear, the reflected sound increases. Similarly, the reflected sound changes when you move from left to right, and vice versa.
The FRONT/REAR and LEFT/RIGHT parameters let you control the balance of direct and reflected sound to simulate your listening position.
In the FRONT/REAR parameter, "F" signifies the front of the room and "R" signifies the rear. The midpoint designates the center.
In the LEFT/RIGHT parameter, "L" signifies the left side of the room and "R" signifies the right side. The midpoint designates the center.

• Reverberation time (REVERB)
This parameter adjusts the length of time required for the reverberation (echoes) generated from a given sound to attenuate –60 dB.
You can choose shorter (S) or longer (L) reverberation times.

• Low Frequency Extension (LFE) mix level (OTHER)
This parameter lets you attenuate the level of the LFE (Low Frequency Extension) channel output from the sub woofer without effecting the level of the bass frequencies sent to the sub woofer from the front, center or rear channels via the bass redirection circuitry. The level can be adjusted in 0.5 dB steps from –20.0 dB to 0 dB (line level). 0 dB outputs the full LFE signal at the mix level determined by the recording engineer.
Selecting MUTE mutes the sound of the LFE channel from the sub woofer. However, the low frequency sounds of the front, center, or rear speakers are output from the sub woofer according to the settings made for each speaker in the speaker setup (page 22).

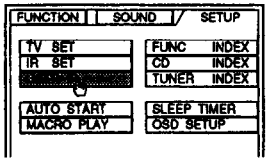
• Dynamic range compression ratio (OTHER)
Lets you compress the dynamic range of the sound track. This may be useful when you want to watch movies at low volumes late at night.
OFF reproduces the sound track with no compression.
STD reproduces the sound track with the full dynamic range as intended by the recording engineer.
0.1 ~ 0.9 allow you to compress the dynamic range in small steps to achieve the sound you desire.
MAX provides a dramatic compression of the dynamic range.

• Test tone (TEST)
This parameter emits the test tone and allows you to check the balance of the speaker levels. See "Adjusting the speaker volume" on page 23 for details.

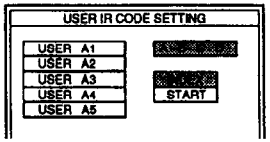
Registering Desired Components (User IR setting)

Use the USER IR CODE SETTING menu to register any IR codes that could not be registered in "Registering Audio and Video Components" on page 19. By registering User IR codes, you can control a variety of appliances (such as air conditioners) as well as audio/video components. You can register up to 20 User IR codes.

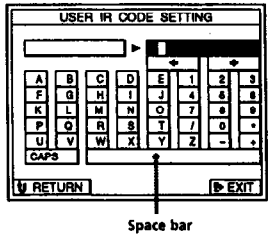
1 Click SETUP in the main menu to display the SETUP menu, then click USER IR.



2 Click A B C D to select a User IR code page, then click INDEX.

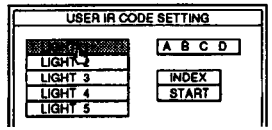


3 Create a name for the IR code by clicking each character. The name is automatically stored. To enter a space, click the space bar. To switch between upper and lower case letters, click CAPS. If you made a mistake, click ⇐ or ⇒ to move the cursor to the character to be changed, then click the correct character.



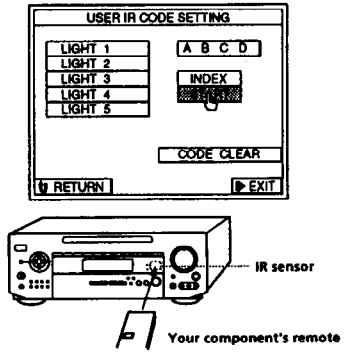
4 Click RETURN to go back to the USER IR CODE SETTING menu, then repeat steps 2 to 4 until you enter the names of all the IR codes you want to register.

5 Click the name of the first IR code.



6 Cover the IR sensor on the respective component to prevent accidental operation during the registration procedure.

7 Click START.
When "PUSH YOUR REMOTE" appears on the TV screen, press the button you want to register.



When registering the IR code, be sure to do the following; otherwise, the IR code may not be registered correctly.
- Point the remote at the IR sensor on the receiver from a distance of less than 2 inches (5 cm).
- Hold down the button on the remote for about 2 or 3 seconds until the "RECEIVING" display switches to "RELEASE YOUR REMOTE".
- Keep the remote pointed horizontally at the IR sensor until the code is registered.

To register a specific IR code
Click the button where the IR code was registered, then click START.

Notes

- If the AC power cord is disconnected for about two weeks, the registered IR codes will be cleared. "ALL CLEAR!" will appear on the TV screen the next time you turn on the receiver.
- The power switch on some air conditioners use two independent IR codes, even when there is only one switch. If you cannot turn the air conditioner off with the IR code registered for the on/off switch, repeat the procedure and register the on and off IR codes separately.
- The receiver may not be able to register IR codes with special waveforms produced on some remote controls.

Erasing IR codes

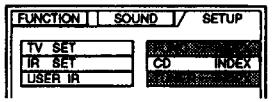
Click CODE CLEAR in the USER IR CODE SETTING menu.

- **To erase a specific IR code**
  1 Click SINGLE IR CODE CLEAR.
  2 Click the button you want to clear.
  "Are you sure?" appears.
  3 Click YES to erase the code.
  "CODE CLEAR!" appears.
  To cancel erasing, click NO.
  To erase another code, repeat steps 2 and 3.
- **To erase all the User IR codes**
  1 Click USER IR CODE CLEAR.
  "Are you sure?" appears.
  2 Click YES to erase the codes.
  "CODE CLEAR!" appears.
  To cancel erasing, click NO.

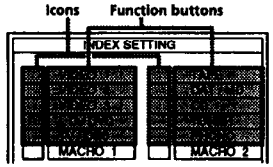
Indexing

The Index functions let you specify icons for each function button and names up to 8 characters long for each function button and preset radio station.

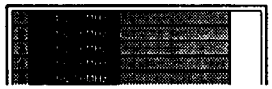
1 Click SETUP in the main menu to display the SETUP menu, then click FUNC INDEX or TUNER INDEX.



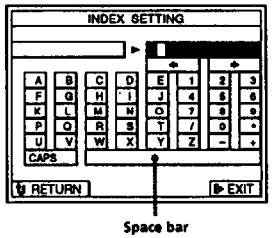
2
- For the function buttons (FUNCTION INDEX)
  1 Click the icon to be specified.
  2 Click the icon you want from the icon menu, then click RETURN.
  3 Click the function button to be specified.



- For the preset radio stations (TUNER INDEX)
  1 Click LIST TUNER to display the list of the preset frequencies
  2 Click ABC to select the page, then select the station to be named.



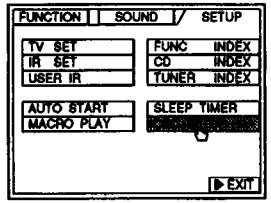
3 Create the new name by clicking each character. The name is stored automatically. To enter a space, click the space bar. If you made a mistake, click ← or → to move the cursor to the character to be changed, then click the correct character.



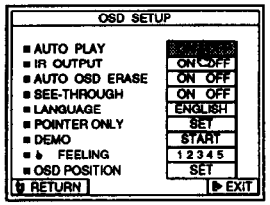
Playing Components Automatically (Auto Play)

The Auto Play function lets you set the receiver to start playing the components immediately after they are selected from the FUNCTION SELECT menu. The receiver comes from the factory with Auto Play set to on.

1 Click SETUP in the main menu to display the SETUP menu, then click OSD SETUP.



2 Click AUTO PLAY ON or OFF.



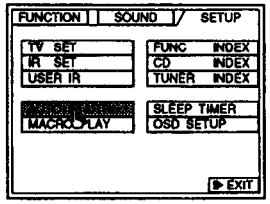
Notes

- The Auto Play function does not work when you operate the receiver from the front panel.
- The receiver cancels the automatic playback function of components designed to start playing when they are turned on (such as laser disc and CD players). To activate the auto play function, set the receiver's Auto Play to on.

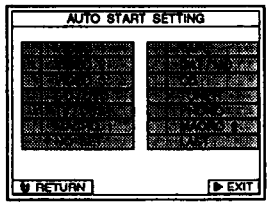
Starting a Component Automatically at Power On (Auto Start)

The Auto Start function lets you set the receiver to start playing a specific component immediately whenever you turn on the receiver.

1 Click SETUP in the main menu to display the SETUP menu, then click AUTO START.



2 Click the component you want.
- To start the last-played component automatically when you turn on the receiver, click LAST.
- To do a macro automatically when you turn on the receiver, click MACRO 1 or MACRO 2. Be sure that the Auto Play function is set to on.



To cancel the Auto Start function
Click NO SET in step 2.

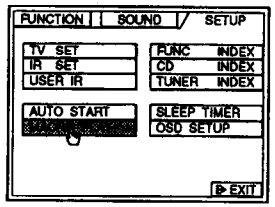
Note
A Macro Play setting containing the ALL OFF command cannot be selected for Auto Start.

Starting Several Components in Sequence Automatically (Macro Play)

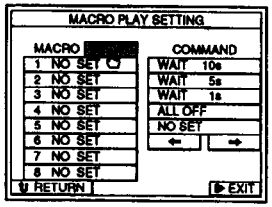
The Macro Play function lets you link several IR codes in a sequential order as a single command. The receiver provides 2 pages (MACRO 1 and 2). You can specify up to 8 of the registered IR codes for each page.

Setting the sequence of IR codes

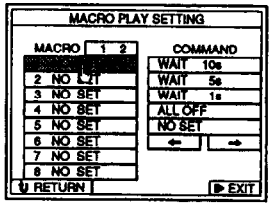
1 Click SETUP in the main menu to display the SETUP menu, then click MACRO PLAY.



2 Click MACRO 1 or 2.



3 Click macro step number 1.
This is the first IR code in the macro sequence.



4 Click ⇐ or ⇒ to show the IR codes available for that button.
The registered IR codes appear at the right of the screen.

- To specify a time lag between commands, click ⇐ or ⇒ repeatedly until the time lag commands (WAIT 10s, WAIT 5s, and WAIT 1s) appear.
- To specify an IR code to turn off all the components, click ⇐ or ⇒ repeatedly until ALL OFF appears.

5 Click the IR code you want.
The name of the IR code appears in the highlighted macro step number and the highlight moves to next macro step number.

6 Repeat steps 4 and 5 to enter up to 8 IR codes.

To erase an entered IR code

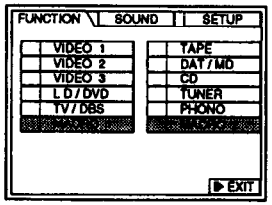
1 Click the code you want to erase.
2 Click ⇐ or ⇒ repeatedly until NO SET appears at the right of the screen.
3 Click NO SET.

Note

The ALL OFF command is not available for the Macro Play selected for Auto Start.

Starting a Macro Play

Click FUNCTION in the main menu, then click MACRO 1 or MACRO 2. The specified IR codes start automatically.



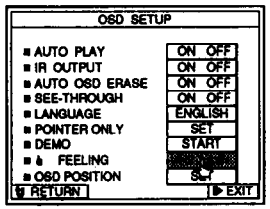
You can start a Macro Play automatically when you turn on the receiver by selecting a Macro Play in the Auto Start function (see page 44).

Adjusting the Sensitivity of the Remote

You can select from five sensitivity levels that determine the speed at which the pointer moves.

1 Click SETUP in the main menu to display the SETUP menu, then click OSD SETUP.

2 Click FEELING 1 to 5 to select the sensitivity level you want.
The higher the number, the faster the speed.



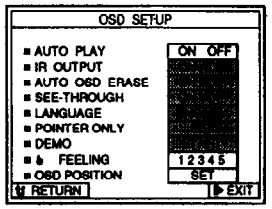
Changing the Display Settings

Selecting the display parameters

You can select the display modes (AUTO OSD ERASE, POINTER ONLY or DEMO) and the display type (SEE-THROUGH or LANGUAGE). You can also switch the IR OUTPUT setting when you connect the IR repeater.

1 Click SETUP in the main menu to display the SETUP menu, then click OSD SETUP.

2 Select the display parameters you want to change.



- To select the display mode, click AUTO OSD ERASE (ON or OFF), POINTER ONLY (SET) or DEMO (START).
  AUTO OSD ERASE: This display mode is useful during LD player operations since it allows you to see chapter numbers that otherwise might be hidden by the control panel. When this mode is on, control panels disappear whenever you click and hold down the direction control button on the remote. When you release the button, the control panel reappears.

  POINTER ONLY: This display mode allows you to use the pointer to point to various on-screen items, such as during a presentation (etc.). When you click POINTER ONLY SET, the on-screen display disappears except for the pointer and an EXIT button. To freeze the pointer, hold down the direction control button on the remote.

  DEMO: This display mode activates a program that explains the various functions of the receiver. **Note that when the program is running, it replaces previously stored data (such as surround sound parameters) with data from the program.** Click START to activate the program. To stop the program, press any button on the remote or receiver.

- To select the display type, click SEE-THROUGH (ON or OFF) and LANGUAGE (ENGLISH, FRENCH or GERMAN).
  SEE-THROUGH: When set to OFF, the display appears in the factory-set color. When set to ON, all menus and control panels are transparent, with only characters and outlines visible, allowing you to see the contents of video programs.

  LANGUAGE: This setting lets you specify the language appearing in the on-screen display and the display on the front of the receiver. You can choose between three languages: English, French and German.

- To switch the IR OUTPUT setting, click IR OUTPUT ON or OFF. When it is set to OFF, the IR signals are output only from the IR OUT jack on the rear panel. No IR signals will be output from the IR emitter on the front panel. When the IR OUTPUT is set to OFF, "IR OFF" appears in the main menu. Normally, IR OUTPUT should be set to ON.

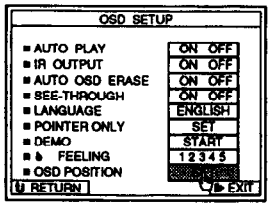
Note
Even if you have selected SEE-THROUGH ON, the display changes to the factory set color when there is no video signal being input. When a video signal is input, the display reverts to SEE-THROUGH ON.

Adjusting the position of the on-screen display

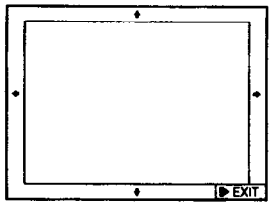
You can adjust the overall position of the on-screen display control panel.

1 Click SETUP in the main menu to display the SETUP menu, then click OSD SETUP.

2 Click OSD POSITION SET.
The position adjustment screen appears.



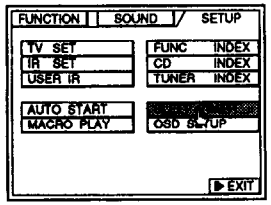
3 Click the borders to adjust the position so you can just see the top, bottom, right and left edges of the border.



Using the Sleep Timer

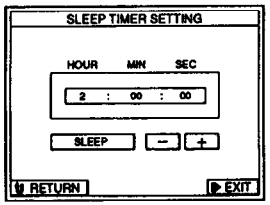
You can set the receiver to turn off automatically at a time you specify.

1 Click SETUP in the main menu to display the SETUP menu, then click SLEEP TIMER.



2 Click TIMER repeatedly to select the length of the sleep timer.
Each time you click TIMER, the menu changes as follows:

→ 2:00:00 → 1:30:00 → 1:00:00 → 0:30:00 → OFF →



"SLEEP" appears in the upper left corner of the main menu.

You can also freely specify the time
Click + or – to change the sleep time in 1 minute increments. You can specify up to 5 hours.

You can check the time remaining before the receiver turns off
Click FUNCTION, then click SLEEP. The remaining time appears in the on-screen display.

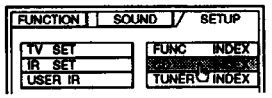
For USA and Canada
You can also operate the sleep timer by pressing SLEEP on the remote. Each time you press SLEEP, the time changes as shown in step 2 above. The display dims after you specify the time.
To check the time remaining before the receiver turns off, press SLEEP.

Operating a CD Changer

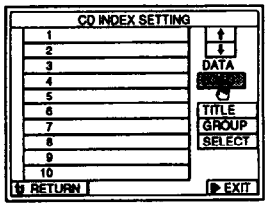
Downloading the CD name data in a Sony CD changer with a CTRL A1 jack

You can download all of the CD name data in a Sony CD changer that is equipped with a CTRL A1 jack, thus saving you the trouble of adding names one by one. Make sure that the CONTROL A1 connection is complete (see page 8) and the CD changer is registered as a Sony CONTROL A1 CD in the IR CODE SETTING menu (see page 19).

1 Click SETUP in the main menu to display the SETUP menu, then click CD INDEX.



2 Click DATA LOAD.
The CD name data is downloaded and after a few minutes, the downloaded data appears in the CD INDEX SETTING menu.



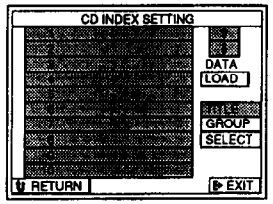
Note
If the characters (# $; • ä ö ü) have been recorded in the CD changer, they will appear as blanks in the on-screen display.

Indexing a CD

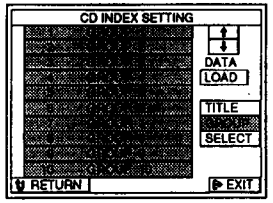
You can specify the names up to 12 characters for each CD (up to 200 discs) or group of discs in a CD changer.

1 Click SETUP in the main menu, then click CD INDEX.

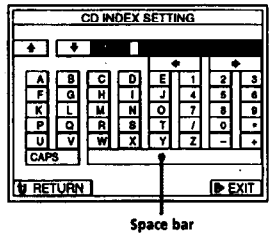
2 • To name a disc, click TITLE. And then Click ↑ or ↓ to display the number of the disc to be named, then click the disc.



• To name a group, click GROUP, then click the group to be named.



3 Create the new name by clicking each character.
The name is automatically stored.
To enter a space, click the space bar.
If you made a mistake, click ← or → to move the cursor to the character to be changed, then click the correct character.

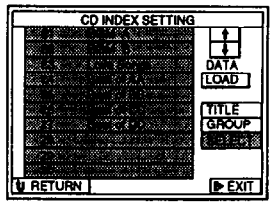


Grouping CDs

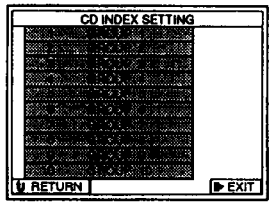
You can assign your CDs to one or more groups.

1 Click SETUP in the main menu, then click CD INDEX.

2 Click SELECT, then click the disc you want to assign to a new group.
If the disc you want does not appear, click ↑ or ↓.



3 Click the names of the groups to which you want to assign the CD.



To remove the CD from one or more groups
Click the highlighted group name so that it goes out in step 3.

You can assign the CD to one or more group
For example, to assign the CD to both "GROUP 1" and "GROUP 4," click both group names in step 3.

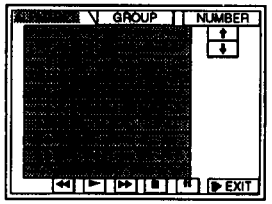
(continued)

Searching for a CD quickly

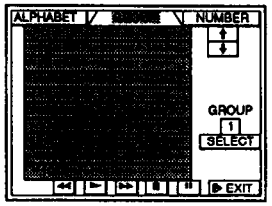
1 Click FUNCTION in the main menu, then click CD.

2 Click LIST.

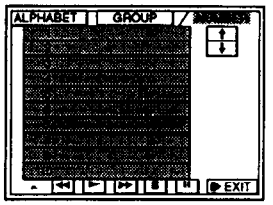
3 • To search in alphabetical order
1 Click ALPHABET to display the discs in alphabetical order.
2 Click the disc. If the disc you want is not displayed, click ↑ or ↓.



• To search using the group names
1 Click GROUP.
The GROUP SELECT button and a group number appear at the right side of the screen.
If there is no group corresponding to the respective group number, "NO ENTRY" is displayed.
2 Click SELECT to display groups 1–10.
3 Click the group you desire.
The group number and disc list for the selected group appear on screen.
4 Click the disc. If the disc you want is not displayed, click ↑ or ↓.



• To search by disc number.
1 Click NUMBER to display the discs in numerical order.
2 Click the disc. If the disc you want is not displayed, click ↑ or ↓.



Playback starts automatically.

Notes
- Depending on the type of CD changer connected (3 or 5 disc changer, etc.), you may not be able to select the CD by clicking the disc name. In this case, select the CD from the normal CD control panel.
- If the CD changer is made by another manufacturer, and the sequence of operations required to start playback is other than; ① pressing a numeric button followed by ② pressing the disc button, then playback may not start when you click the disc name. In this case, return to the main menu, click SUB, and operate the CD changer according to its normal playback procedure.

Selecting a Component

For the on-screen operations, see page 26.

1 Press POWER to turn on the receiver, then press VIDEO FUNCTION or AUDIO FUNCTION repeatedly until the component you want appears in the display.

VIDEO FUNCTION

To listen to or watch	Select*[1]
Video tapes	VIDEO 1, VIDEO 2 or VIDEO 3
Laser discs (LD) or DVD	LD/DVD
TV programs or Digital Broadcasting Satellites (DBS)	TV/DBS

*[1] The FUNCTION HOOKUP setting (see below) allows you to delete the names of components which are not connected.

AUDIO FUNCTION

To listen to or watch	Select*
Digital Audio Tapes (DAT) or MiniDiscs (MD)	DAT/MD
Compact Discs (CD)	CD
Analog audio tapes	TAPE
Radio programs	TUNER
Records	PHONO

* The FUNCTION set up (see page 58 or 59) allows you to delete the names of components which are not connected. When a function is set to "NO" in the FUNCTION set up menu, it cannot be selected.

2 Start playing the component, then use MASTER VOLUME to adjust the volume.

To	Do This
Reinforce the bass	Press BASS BOOST to turn on the BASS BOOST indicator.
Adjust the balance	Turn the BALANCE control to the left (L) or right (R).
Enjoy high quality sound	Press DIRECT PASS to bypass audio effects the equalizer, bass reinforcement, and surround effects. The DIRECT PASS indicator lights up.

When you listen with headphones
Connect the headphones to the PHONES jack and set the SPEAKERS selector to OFF.

To listen to digital program sources
Select the digital source you desire (LD/DVD, CD or DAT/MD), then press INPUT MODE on the front panel repeatedly to select "AUTO", "DIGITAL", or "ANALOG".
See "To listen to digital program sources" on page 27 for details.

Playing audio and video components at the same time

1 Press VIDEO FUNCTION repeatedly to select the video component you want.

2 Press AUDIO FUNCTION repeatedly to select the audio component you want.

3 Start playing the selected video and audio components.

(continued)

Front Panel Operations (Remote Short-cuts: USA and Canada only)

Selecting a component directly from the remote control (USA and Canada only)

1 Press one of the SYSTEM CONTROL FUNCTION buttons to select the component you want to use. The receiver and the selected component turn on. The SYSTEM CONTROL FUNCTION buttons on the remote are factory-set as follows:

To listen to or watch	Press*
Records	PHONO
Radio programs	TUNER
Compact Discs (CD)	CD
Digital Audio Tapes (DAT) or MiniDiscs (MD)	DAT/MD
Audio tapes	TAPE
TV programs or video tapes	VIDEO 1, VIDEO 2 or VIDEO 3
Laser discs/DVD	LD/DVD
Digital program sources	INPUT MODE

* "NO CONNECTION" is displayed if you select a function that was set to "NO" in the FUNCTION set up menu (see page 58 or 59).

If the component does not turn on
Press the power switch on the component.

2 Start playing.
Refer to "Remote Descriptions" on page 52 for details.

To turn off the components
Press SYSTEM OFF. This will also turn off the video and audio components connected to the SWITCHED AC OUTLETs on the back of this unit at the same time.

Tuning Radio Stations

The receiver lets you tune a station by scanning stations (Automatic Tuning), and by selecting preset stations (Preset Tuning).

For the on-screen operations, see pages 29 to 30.

1 Press AUDIO FUNCTION repeatedly to display "TUNER," then press FM/AM to select FM or AM.

2 Press DISPLAY so that the frequency appears.

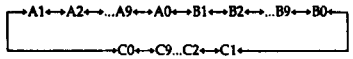
3 Press TUNING + or –.
The frequency indication changes and scanning stops when the receiver tunes in a station. To continue scanning, press + or – again. Press + for a higher station number; press – for a lower one.

Tuning preset stations (Preset Tuning)

1 Press AUDIO FUNCTION repeatedly to display "TUNER".

2 Press SHIFT to select a memory page (A, B or C).

3 Press PRESET TUNING + or – repeatedly to select the station you want. Each time you press the buttons, the preset numbers change as follows:



Note
If the AC power cord is disconnected for about 1 week, the preset stations will be cleared. Preset the stations again.

Recording

For the on-screen operations, see page 31.

1 Press VIDEO FUNCTION or AUDIO FUNCTION repeatedly to select the playback component you want to record.

2 Insert a blank tape into the recording component and adjust the recording level, if necessary.

3 Start recording on the recording component, then start playing the playback component.

To stop recording
Stop both components.

Digital Recording

EXAMPLE: Recording a CD using a DAT deck.
See your DAT or CD player's instruction manual if you need help.

1 Press INPUT MODE repeatedly to select CD (if the CD player is connected to the DIGITAL OPTICAL: CD IN jack).

2 Insert a blank digital audio tape into the DAT for recording.

3 Start recording on the DAT, then start playing the CD you want to record.

Note
You cannot record the digital signal from a Dolby Digital (AC-3) program source.

Adjusting the Sound

The adjusted sounds are stored automatically.

To select the sound fields

For the on-screen operations, see page 36.

Press GENRE repeatedly to display the sound fields genres, then press MODE repeatedly to display the sound fields mode. For the list of sound fields, see page 33 .

To turn off the sound fields
Press SOUND FIELD ON/OFF.

To adjust the equalizer parameters

For the on-screen operations, see page 38.

1 Start playing a component, then select the sound field you want to adjust.

2 Press DPC MODE repeatedly until the EQ indicator lights up.

3 Use digital processing control buttons (∧ / ∨) to select the parameter you want.

Front speaker bass adjustment
Level : F: BASS 0dB
Frequency : F: BASS 250Hz

Front speaker treble adjustment
Level : F: TREBLE 0dB
Frequency : F: TREBLE 2.5kHz

Center speaker bass adjustment
Level : C: BASS 0dB
Frequency : C: BASS 250Hz

Center speaker treble adjustment
Level : C: TREBLE 0dB
Frequency : C: TREBLE 2.5kHz

Rear speaker bass adjustment
Level : R: BASS 0dB
Frequency : R: BASS 250Hz

Rear speaker treble adjustment
Level : R: TREBLE 0dB
Frequency : R: TREBLE 2.5kHz

(continued)

4 Use digital processing control buttons (< / >) to adjust the level, then press (∧ / ∨) to select the frequency (Hz). You can adjust the level ± 10 dB in 0.5 dB steps.

5 Repeat steps 3 and 4 to make all necessary adjustments.

To adjust the surround sound parameters

For the on-screen operations, see pages 37 and 40 .

1 Start playing a component, then select the sound field you want to adjust.

2 Press DPC MODE repeatedly until the SUR indicator lights up.

3 Use digital processing control buttons (∧ / ∨) to select the parameter you want.
See "Surround (SUR) parameters" below for details.

4 Use digital processing control buttons (< / >) to adjust the level of the parameter.

Note
Certain menu items may not be available for adjustment depending on the current settings and menu modes. Unavailable items appear dimmed when shown in the display.

Surround (SUR) parameters

■ Surround sound parameters (See page 40 for details)

Surround effect level (Digital Cinema Sound modes only)
Initial setting is : EFFECT [_____]
It lets you adjust the "presence" of the current digital cinema sound surround effect.
- In the KARAOKE mode, use the effect level to adjust the amount of vocal cancellation. Greater effect levels produce greater reduction of the vocals.

Wall Type
Initial setting is : WALL S___I___H
It lets you adjust the "brightness" of the current digital cinema sound surround effect.

Front to rear seat position
Initial setting is : SEAT F___I___R
It lets you adjust the atmosphere of the current digital cinema sound surround effect.

Left to right seat position
Initial setting is : SEAT L___I___R
It lets you adjust the atmosphere of the current digital cinema sound surround effect.

Reverberation time
Initial setting is : REVERB S___I___L
It lets you adjust the amount of reverberation present in the current digital cinema sound surround effect.

Low Frequency Extension (LFE) mix level (DISCRETE only)
Initial setting is : LFE MIX 0dB
This parameter lets you attenuate the level of the LFE (Low Frequency Extension) channel output from the sub woofer without effecting the level of the bass frequencies sent to the sub woofer from the front, center or rear channels via the bass redirection circuitry.

Dynamic range compression ratio
Initial setting is : D.RANGE COMP OFF
Lets you compress the dynamic range of the sound track. This may be useful when you want to watch movies at low volumes late at night.

■ Speaker level / balance parameters (See page 23 for details)

Rear speaker balance
Initial setting is : REAR L___I___R
Lets you adjust balance between the rear speakers.

Rear speaker level
Initial setting is : REAR 0 dB
Lets you adjust level of the rear speakers.

Center speaker level
Initial setting is : CENTER 0 dB
Lets you adjust the level of the center speaker.

Sub woofer level
Initial setting is : SUB WOOFER 0 dB
Lets you adjust the level of the sub woofer.

Customizing the Receiver Operations

The menu operations allow you to customize various aspects of the receiver to suit your listening environment, your speakers, your components, and your personal preferences.
For the on-screen speaker setup operations, see page 22.

1 Press SET UP.
"SET UP" appears in the display.

2 Press SET UP repeatedly to display one of the following menus:

SPEAKER SETUP
FUNCTION HOOKUP
OTHER SETUP

3 Use digital processing control buttons (∧ / ∨) to select the parameter you want.

4 Use digital processing control buttons (< / >) to adjust the parameter.

5 Repeat steps 2 and 4 to make all necessary adjustments.

6 Press SET UP twice to exit the set up mode.

(continued)

Set up parameters

■ SPEAKER SETUP (see pages 22 to 23 for details)

Front speaker
Initial setting is : FRONT SP [LARGE]

Center speaker
Initial setting is : CENTER SP [LARGE]

Rear speaker
Initial setting is : REAR SP [LARGE]

Rear speaker place
Initial setting is : REAR SP [SIDE]

Sub woofer
Initial setting is : SUB WOOFER [YES]

■ FUNCTION HOOKUP

VIDEO1, VIDEO2, LD/DVD, TV/DBS, TAPE, DAT/MD, CD, PHONO
Initial setting is : YES
These settings let you delete the names of unconnected components from the function lists.
- YES displays the name of the respective component (jacks).
- NO deletes the name of the respective component (jacks).

Notes
- When a function is set to "NO", it cannot be selected.
- If an S-LINK signal (Control A1, Control-S) is input to the S-LINK jack from a component whose function was set to "NO", the function will automatically switch to "YES" and that function will be selected.
- When using the remote, "NO CONNECTION" is displayed if you select a function that was set to "NO" (USA and Canada only).

■ OTHER SETUP

Center speaker delay
Initial setting is : CENT. DELAY 0
See page 39 for details.

Rear speaker delay
Initial setting is : REAR DELAY 5
See page 39 for details.

Dimmer level
This setting lets you select brightness of the display on the front panel.
- You can select between four different settings.

Control A1 display
Initial setting is : CTRL A1 [AUTO]
This setting lets you specify the display mode for Control A1 components.
- AUTO displays "PLAY", "STOP", "PAUSE" or "REC" for about 8 seconds when the operation switches.
- FIX displays "PLAY", "STOP", "PAUSE", "REC" or the contents of a disc or track memo of a CD or MD at all times.
- OFF turns off the operation status display.

Notes
- This setting is only effective when the IR code setting is set to Sony Control A1.
- If the disc or track memo contains a character that the receiver cannot display, "." appears for that character.

Indexing

Using the index functions, you can specify names up to 8 characters long for each component and preset radio station.

For the on-screen operations, see page 43.

1 • For the components
Press AUDIO FUNCTION or VIDEO FUNCTION repeatedly to select a component.
• For the preset stations
Tune in a preset station.

2 Press DPC MODE repeatedly until the INDEX indicator lights up.

3 Create a name using the digital processing control buttons.
Press ∧ or ∨ to select a character, and then press > to move the cursor to the next position.
The name is stored automatically.
To insert a space, press ∧ or ∨ until a blank space appears in the display. The space appears between " and A.
If you've made a mistake, press < or > repeatedly until the character you want to change flashes. Then select the right character.

4 Repeat steps 1 to 3 to assign index names to other components or stations.

To switch the display
Each time you press DISPLAY, the display switches between the index name → component name (or frequency) → track memo*1) → disc memo*1).
• If the Control-A1 display mode is set to "AUTO" or "FIX" when listening to a Control-A1 compatible tape or DAT deck, the Control-A1 operations are displayed together with the index name and component name.
Example: TAPE [PLAY] → index name [PLAY]
*1) If the Control-A1 display mode is set to "FIX" when listening to a Control-A1 compatible CD player or MD deck, you can display the disc memo and track memo information in addition to the Control-A1 operations.
Example: CD [PLAY] → index name [PLAY] → disc memo*2) → track memo*3)
*2) Up to 13 characters for CD (15 for MD).
*3) Up to 14 characters for CD (15 for MD).

Note
The display mode returns to FREQUENCY automatically when you press TUNING +/–.

Glossary

Center mode
Setting of speakers to enhance Dolby Pro Logic Surround mode. To obtain the best possible surround sound, select one of the four center modes (WIDE, NORMAL, PHANTOM or 3 CH LOGIC) according to your speaker system.

Dolby Pro Logic Surround
Decoding system of Dolby Surround sound standardized in TV programs and movies. Compared with the former Dolby Surround system, Dolby Pro Logic Surround improves sound image by using four separate channels: off-screen audio effects, on-screen dialog, left-to-right panning, and music. These channels manipulate the sound to be heard and enhance the action as it happens on the screen.

Dolby Surround
Encoding and decoding system of Dolby Surround sound for consumer use. Dolby Surround decodes the extra channels on the Dolby Surround-encoded sound tracks of movie videos and TV programs and produces sound effects and echoes that make the action seem to envelop you.

The receiver offers Dolby Surround (PRO LOGIC) as one of the pre-programmed sound fields. If you have rear or center speaker(s), we recommend that you customize the Dolby Surround sound field by selecting the appropriate center mode to take advantage of Dolby Pro Logic Surround sound.

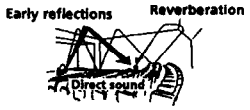
Effect level
Combination of the level of early reflections and reverberation. You can adjust the effect level in 6 levels. As you select higher levels, the room becomes "live," and as you select lower levels, the room becomes "dead."

Parameter
Variable of sound that composes sound image, such as tone or delay time. You can customize the pre-programmed sound fields by adjusting parameters to suit your listening situation.

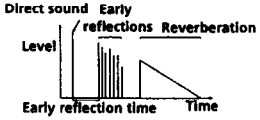
Sound field
Sound pattern produced by a sounding source or sources in a given environment due to direct and reflected sounds and the acoustics of the environment. The receiver offers pre-programmed sound fields to let you enjoy surround sound easily.

Surround sound
Sound that consists of three elements: direct sound, early reflected sound (early reflections) and reverberative sound (reverberation). The acoustics where you hear the sound affect the way these three sound elements are heard. These sound elements are combined in such a way that you can actually feel the size and the type of a concert hall.

• Types of sound



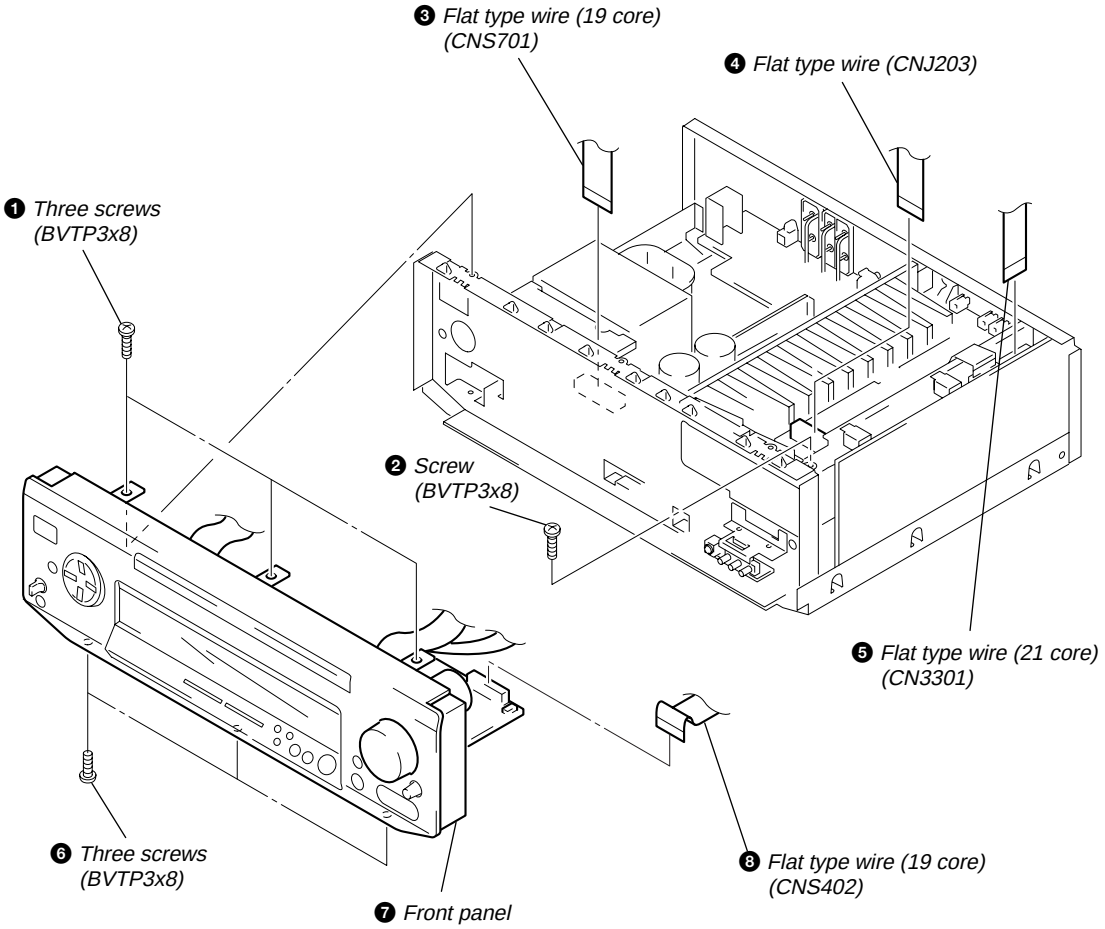
• Transition of sound from rear speakers



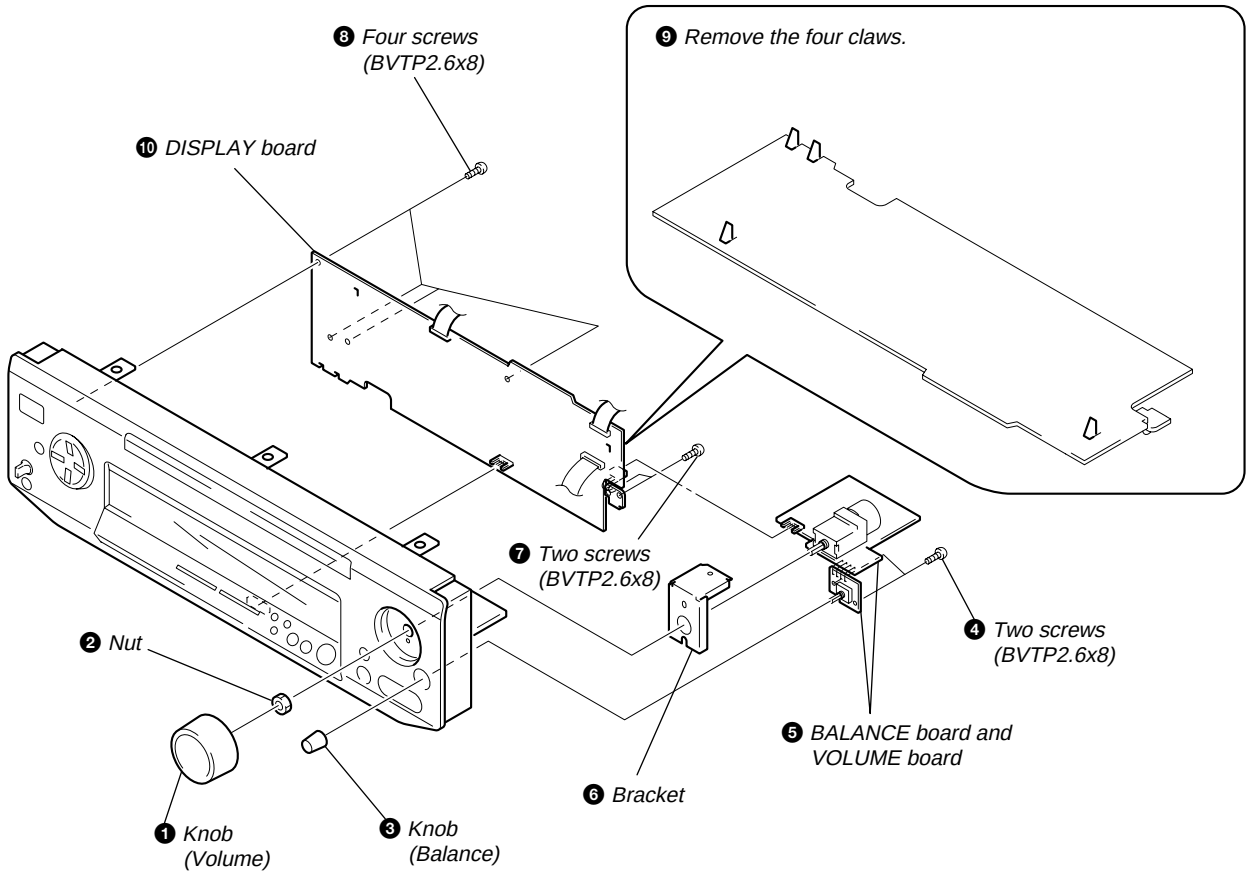
SECTION 3
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

3-1. FRONT PANEL



3-2. BALANCE BOARD, DISPLAY BOARD AND VOLUME BOARD



SECTION 4
TEST MODE

Self-Diagnosis and Test Mode

This unit is provided with a "self-diagnosis and self-recovery function" which detects DSP errors and automatically recovers the unit, and a test mode for performing operation checks during repairs.

1. MAIN FUNCTIONS

- DSP self-diagnosis program for servicing and operation check mode.

2. ENTERING THE TEST MODE

While pressing the MODE button and AUDIO FUNCTION < button simultaneously in the power OFF state, press the POWER button.

3. Self-diagnosis Mode for Servicing/Display of DSP Errors

3-1. Self-diagnosis Mode for Servicing

Before entering the test mode, DSP self-diagnosis program for servicing will be run.

- **When an error is detected:**
  The error message is displayed on the fluorescent display tube. When several errors occur at the same time, only the last error detected will be displayed.

- **When no error is detected:**
  First, "DSP ERROR" will be displayed, then "DSP NO ERROR" will be displayed, and the operation check mode will be set.

Table-1:

Error Message/Fluorescent Display Tube	Possible Reasons
DSP ERROR	When a DSP error is detected, after this display, the contents of "3-2. Display of DSP Operations" will be displayed.

3-2. Display of DSP Operations

Display of error	Possible cause
① DSP $\frac{1}{2}$ BOOT ERROR	Mostly due to faulty connection (soldering) between DSP and microprocessor
② DSP $\frac{1}{2}$ HREQ ERROR	Faulty DSP clock (X3501 and onwards), faulty DSP part, etc.
③ DSP $\frac{1}{2}$ VRFY ERROR	Overrunning of DSP due to heat, microprocessor bugging, or IC3409 (DIGITAL board PLL) is faulty
④ DSP 1 RPLY	Faulty DSP part, or faulty microprocessor part, etc.

4. OPERATION CHECK MODE

Outputs the Lch LD/DVD OPTICAL signal to the FRONT Lch, REAR Lch, CENTER, and the Rch to the FRONT Rch, REAR Rch, and CENTER.

5. NOTE AFTER USING THE TEST MODE

Be sure to unplug the AC plug after the test mode is performed.

SECTION 5
ELECTRICAL ADJUSTMENT

TUNER SECTION

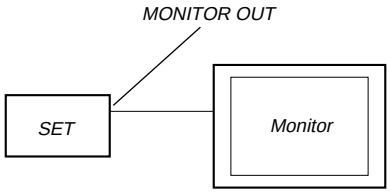
No adjustment is needed due to a tuner unit (TU401).

OSD SECTION

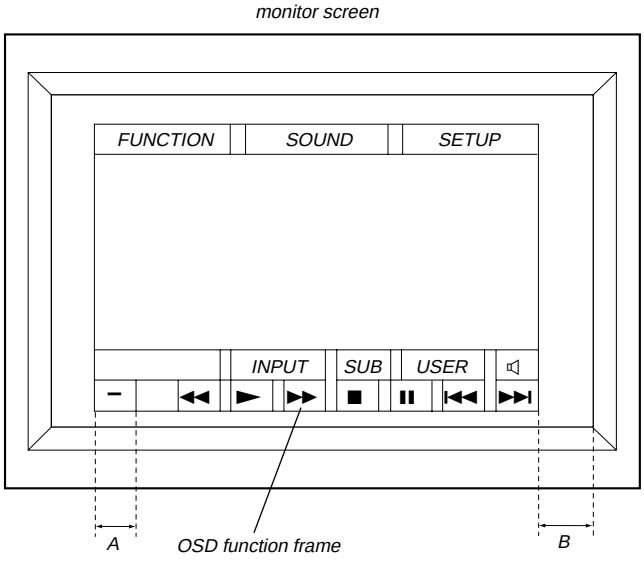
OSD WIDTH Adjustment

Note: Perform "ALL CLEAR" before this adjustment.
(Refer to Servicing note on page 4)

Connection:



Procedure:
1. Press the [POWER] button and turn ON the power.
2. The OSD function frame will be displayed on the monitor. This screen will disappear in a few seconds automatically when the input of codes using the remote commander stops.
   If it disappears during adjustments, move the cursor of the remote commander supplied as an accessory. The screen will appear again.
3. While watching the monitor screen, adjust CT201 of the OSD (V) board so that the following adjustment standard is satisfied.

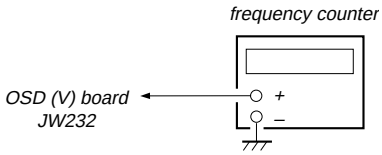


Adjustment standard:
Adjust so that the width B becomes one and a half times of width A.
1.5A = B

NOTE:
Extra margin is provided in this adjustment in consideration of the deviation of the screen according to the type of monitor used. Consequently, the user is able to adjust the position of the screen freely. (For details, refer to "Adjustment of OSD Screen Position" in 1. Servicing note. Refer to page 4.)

OSD COLOR BURST Adjustment

Connection:

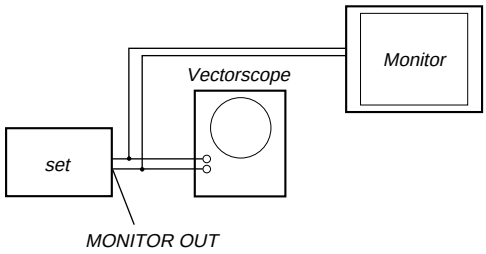


Procedure:
1. Without anything connected to the external input terminal, press the [POWER] button and turn ON the power.
2. Adjust CT202 of the OSD (V) board so that the reading on the frequency counter becomes 3.579545 MHz ± 10 MHz.

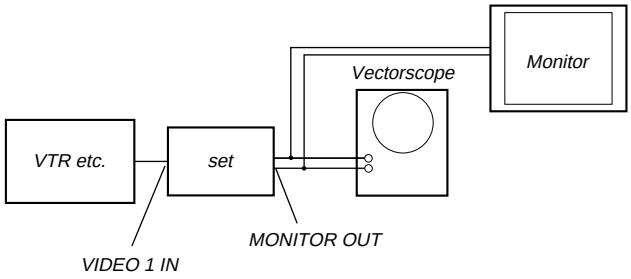
OSD PICTURE Adjustment

Connection:

Connection 1:



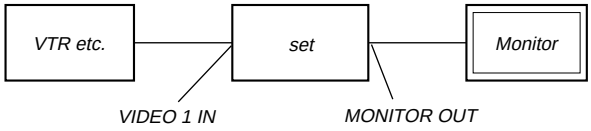
Connection 2:



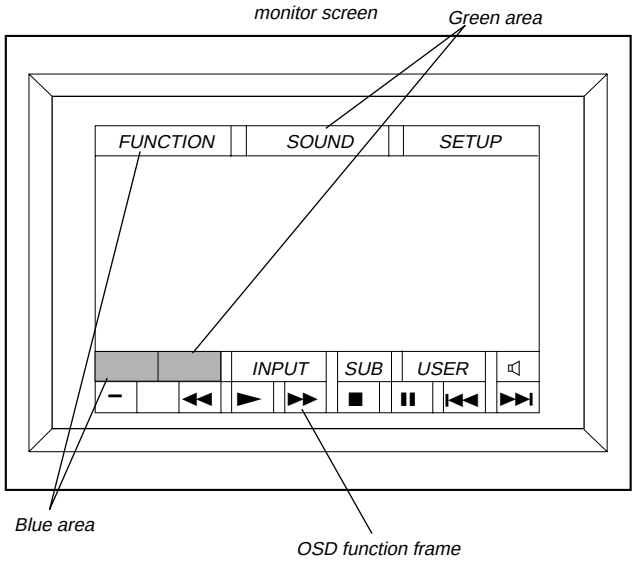
Procedure 1:
1. Without anything connected to the external input terminal (connection 1), press the [POWER] button and turn ON the power.
2. Check that the OSD function frame screen is displayed on the monitor. If no OSD function frame screen is displayed, move the cursor button of the remote commander supplied as an accessory provided to display the screen.
3. Observe the vectorscope, and adjust RV201 of the OSD (V) board so that the light dots converge in the BLUE area.
4. Connect a dynamic picture video device to the external input terminal (VIDEO 1 IN jack) of this unit (Connection 2).
5. Press the [VIDEO FUNCTION] button and set the input source to VIDEO 1.
6. Move the cursor of the remote commander supplied as an accessory provided, and display the OSD function frame.
7. Observe the vectorscope. Check that the light dots in the BLUE range and the light dots adjusted at 3 are coinciding.
8. If they do not coincide, disconnect the external video device, and adjust RV201 of the OSD (V) board again.
9. If the light dots when an external video device is connected and not connected coincide, it indicates the end of the adjustment.

Procedure 2: (When no vectorscope is used)

Connection:



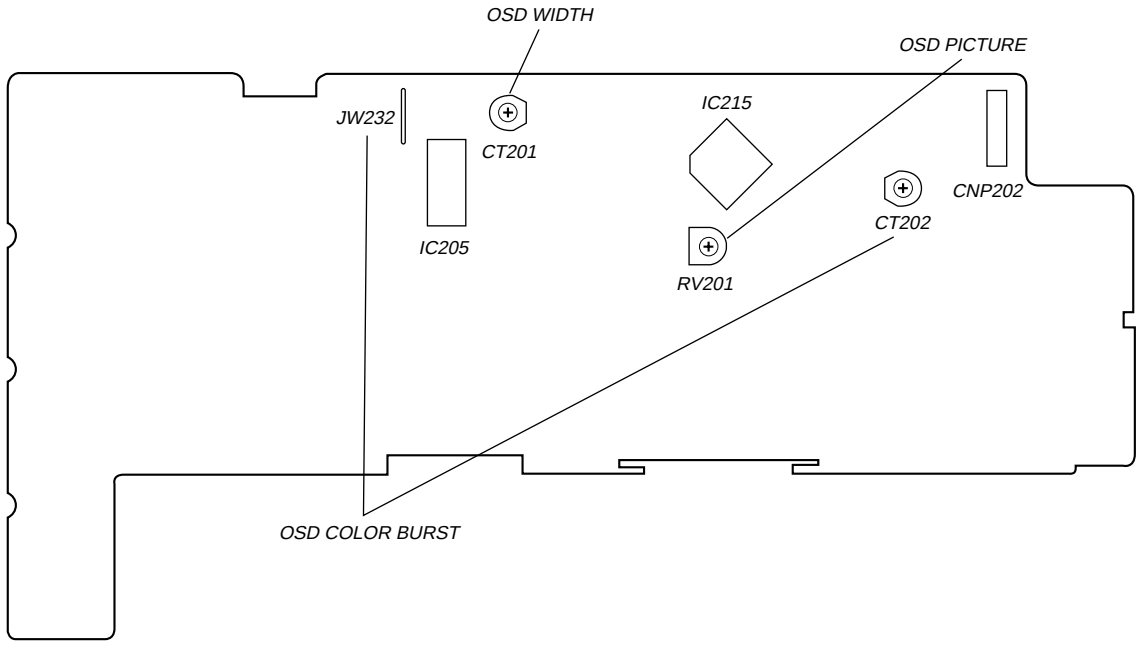
1. Connect a dynamic picture video device to the VIDEO 1 IN jack of the unit.
2. Press the VIDEO FUNCTION button, and set the input source to VIDEO 1.
3. Move the cursor of the remote commander supplied as an accessory provided, and display the OSD function frame.
4. Take note of the blue and green screens at the bottom left of the OSD function frame.
5. Disconnect the video device connected at 1.
6. Adjust RV201 of the OSD (V) board so that the blue and green parts at the bottom left of the OSD function frame to the same color as the images checked at 4.



Note) Perform this adjustment when disconnecting the external video device. If the external video device is connected, there is no meaning in performing this adjustment due to the use of the color burst of the external device instead of the internal sync signal.

Adjustment Location

[OSD (V) BOARD] (Component side)



SECTION 6
DIAGRAMS

6-1. IC PIN FUNCTIONS

• IC103 Mode controller (MB90673PF)

Pin No.	Pin Name	I/O	Function
1	MBUS-V2	–	Not used
2	MBUS-MON	–	Not used
3	MBUS-STATUS-OUT	–	Not used
4	—	–	Not used
5	—	–	Not used
6	—	–	Not used
7	LED STANDBY	O	STANDBY indicator drive signal output
8	LED SURR	O	SURROUND indicator drive signal output
9	LED TONE	O	TONE indicator drive signal output
10	LED INDEX	O	INDEX indicator drive signal output
11	VSS	–	Ground
12	LED CD	O	CD indicator drive signal output
13	LED DAT/MD	O	DAT/MD indicator drive signal output
14	LED TAPE	O	TAPE indicator drive signal output
15	LED TV	O	TV indicator drive signal output
16	LED LD	O	LD indicator drive signal output
17	LED V3	O	VIDEO3 indicator drive signal output
18	LED V2	O	VIDEO2 indicator drive signal output
19	LED V1	O	VIDEO1 indicator drive signal output
20	RX (SIN)	O	Serial data output to OSD controller
21	TX (SOUT)	I	Serial data input from OSD controller
22	BUSY	I/O	Serial clock input/output with OSD controller
23	FL CLEAR	O	FL clear signal output to FL driver “H” : active
24	FL DATA	O	FL data output to FL diver
25	FL CLK	O	FL clock output to FL diver
26	FL LAT	O	FL latch output to FL driver “H” : active
27	SIRCS	I	Remote control signal input
28	VCC (A)	–	+5V power supply (Back-up)
29	+AVR	I	Reference voltage input (+) (+5V)
30	–AVR	I	Reference voltage input (–) (Ground)
31	GND (D)	–	Ground
32	AD KEY IN 1	I	Key input 1
33	AD KEY IN 2	I	Key input 2
34	VSS (D)	–	Ground
35	AD KEY IN 3	I	Key input 3
36	AD KEY IN 4	I	Key input 4
37	AD KEY IN 5	I	Key input 5
38	AD VERSION	I	AD version setting input
39	VOL +	O	Volume motor control signal output
40	VOL –	O	Volume motor control signal output

• Abbreviation
OSD : On Screen Display
FL : Fluorescent indicator tube

Pin No.	Pin Name	I/O	Function
41	MODE0	I	Mode setting pin (Fixed at “H”)
42	MODE1	I	Mode setting pin (Fixed at “H”)
43	MODE2	I	Mode setting pin (Fixed at “L”)
44	STANBY	I	Stanby signal input (Fixed at “H”)
45	STOP	I	STOP signal input “L” : active
46	U-RESET	O	Reset output to system controller “L” : reset
47	U-SREQ	I	Slave data request signal input from system controller
48	U-MREQ	O	Master request signal output to system controller
49	U-DATA	O	Master data output to system controller
50	U-CLOCK	O	Master clock output to system controller
51	(GND)	–	Ground
52	AUBUS IN	–	Not used
53	AUBUS OUT	–	Not used
54	(GND)	–	Ground
55	FUNCTION-B	–	Not used
56	FUNCTION-A	–	Not used
57	UP/DOWN-B	–	Not used
58	UP/DOWN-A	–	Not used
59	LEFT/RIGHT-B	–	Not used
60	LEFT/RIGHT-A	–	Not used
61	—	–	Not used (Ground)
62	RESET	I	Reset signal input “L” : reset
63	VSS (D)	–	Ground
64	XO	O	Clock output (4MHz)
65	XI	I	Clock input (4MHz)
66	VCC (D)	–	+5V power supply (Back-up)
67	LED TUNER	O	TUNER indicator drive signal output
68	LED PHONO	O	PHONO indicator drive signal output
69	LED MUTE	O	MUTE indicator drive signal output
70	LED LEARNING	O	LEARNING indicator drive signal output
71	LED D. PASS	O	DIRECT PASS indicator drive signal output
72	LED INPUT	O	INPUT indicator drive signal output
73	LED VOL	O	Volume indicator drive signal output “H” : active
74	LED BASS B	O	Bass boost indicator drive signal output “H” : active
75	SP-A	O	Speaker select control signal output
76	SP-B	O	Speaker select control signal output
77	PW-SW	I	Power on detect signal input
78	—	–	Not used
79	—	–	Not used
80	MBUS-V1	–	Not used

• **IC205 OSD (MB90095PF-G-186-BND)**

Pin No.	Pin Name	I/O	Function
1	YIN	I	Luminous signal input for superimpose displays
2	CIN	I	Chroma signal input for superimpose displays
3	VIN	I	Composite signal input for superimpose displays
4	AVCC	–	Power supply (+5V) (Analog)
5	FSCO	O	Color burst phase signal output
6	$\overline{\text{VBLK}}$	O	Vertical blanking period output (Not used)
7	VCC	–	Power supply (+5V)
8	EXS	I	External circuit of the clock generator for color burst signals (14.3MHz)
9	XS	O	External circuit of the clock generator for color burst signals (Not used)
10	$\overline{\text{HSYNC}}$	O	H. SYNC/COMPOSIT SYNC singal output
11	$\overline{\text{VSYNC}}$	O	V. SYNC signal output (Not used)
12	$\overline{\text{EXHSYN}}$	I	External H. SYNC signal input
13	$\overline{\text{EXVSYN}}$	I	External V. SYNC signal input
14	GND	–	Ground
15	EXD	I	External circuit of the display dot clock generator
16	XD	O	External circuit of the display dot clock generator
17	$\overline{\text{VOB}}$	O	Character and background period signal output (Not used)
18	VOC 2	O	Chroma signal output (Not used)
19	VOC 1	O	Chroma signal output (Not used)
20	VOC 0	O	Chroma signal output (Not used)
21	$\overline{\text{TEST}}$	I	Test pin (Fixed at “H”)
22	S. CLK	I	Shift clock input for serial transmission
23	S. DATA	I	Serial data input
24	$\overline{\text{CS}}$	I	Chip select input
25	VOUT	O	Composite video signal output
26	COUT	O	Chroma signal output
27	YOUT	O	Luminous signal output
28	AGND	–	Ground (Analog)

• Abbreviation
OSD : On Screen Display

• **IC209 OSD Controller (MB90672PF-G-125-BND)**

Pin No.	Pin Name	I/O	Function
1, 2	AD14, AD15	I/O	Address bus and data bus input/output
3 to 6	A16 to A19	O	Address bus output
7	PCE	O	Chip Enable output to RC controller (For communication using personal computers)
8	PCLK	O	Clock output to RC controller (For communication using personal computers)
9	PDATA OUT	O	Data output to RC controller (For communication using personal computers)
10	PDATA IN	I	Data input from RC controller (For communication using personal computers)
11	GND	–	Ground
12	ALE	O	Address latch enable output
13	RDX	O	Read strobe output to data bus
14	WRLX	O	Write strobe output to data bus
15	WRHX	O	
16	MONITOR	I	Control-S input (Monitor) (Fixed at “L”)
17	VIDEO 2	I	Control-S input (VIDEO 2)
18	STATUS-OUT	O	Control-S status output
19	VIDEO 1	I	Control-S input (VIDEO 1)
20	RX (SIN)	I	Serial data input from mode control (U-ART0 reception)
21	TX (SOT)	O	Serial data output to mode control (U-ART0 transmission)
22	P PRES	O	Reset output (For communication using personal computers)
23	TEST 1	O	Test port (Not used)
24	DATA (OSD)	O	Serial data output to OSD
25	CLK (OSD)	O	Serial clock output to OSD
26	LAT (OSD)	O	Latch output to OSD
27	—	–	Not used
28	AVCC	–	Power supply (+5.6V)
29	AVR +	–	Power supply (+5V)
30	AVR –	–	Ground
31	AVSS	–	
32	VOLA/D	I	Volume control signal input (Not used)
33	PREADY	I	Learning code reception ready signal input “L” : nothing
34	GND	–	Ground
35	PSTATUS	I	Infrared rays transmission data status signal input from to RC controller
36	OK	I	Learning OK signal input from RC controller
37	MEMORY FULL	I	Memory full signal input from RC controller
38	BACK UP NG	I	Back up NG signal input from RC controller
39	NG	I	Learning NG signal input from RC controller
40	P-IR	I	Input to the integral calculus circuit of the remote control reception signal

• Abbreviation
RC: Remote Commander
OSD: On Screen Display

Pin No.	Pin Name	I/O	Function
41	MODE 0	I	Mode setting (Fixed at “H”)
42	MODE 1	I	Mode setting (Fixed at “L”)
43	MODE 2	I	Mode setting (Fixed at “L”)
44	HSTX	I	Hardware standby (Fixed at “H”)
45	STOP	I	Request input of reset interrupt
46	IR-IN (A6)	I	IR sensor remote control input (Not used)
47	—	–	Not used
48	—	–	Not used
49	AUBUS IN	I	S-LINK control A1 signal input
50	V. SIGNAL	I	H-sync switching signal input
51	SIRCS-IN	I	SIRCS signal input
52	VD	I	PAL: 60 [flame/s]/ NTSC: 50 [flame/s] signal detect VD input
53	AUBUS OUT	O	S-LINK control A1 signal output
54	F. SW	O	To control output into monitor (Not used)
55	VIDEO-MUT	O	Image mute output (Not used)
56	—	–	Not used
57	—	–	Not used
58	—	–	Not used
59	—	–	Not used
60	IR ON/OFF	O	IR remote control ON/OFF output “H” off
61	BUSY	I/O	Input/output to communicate with the mode control
62	RESET	I	Reset signal input
63	GND	–	Ground
64	XO	O	Clock (4 MHz)
65	XI	I	Clock (4 MHz)
66	VCC	–	Power supply (+5.6V)
67 to 100	AD00 to AD13	I/O	Address bus and data bus input/output

• **IC215 RC Controller (LC86F5864A-5F53)**

Pin No.	Pin Name	I/O	Function
1	P70/INT0	I	Chip enable input from OSD controller
2	P71/INT1	I	Chip enable input (For on-board) (Not used)
3	P72/INT 2/TOIN	I	Not used (Fixed at “L”)
4	P73/INT 3/TOIN	I	SIRCS signal input
5	P30	I	Power supply normality signal input
6	P31	O	Infrared rays transmission data status signal output to OSD controller “L” nothing
7	P32	O	Learning NG signal output to OSD controller
8	P33	O	Back-up NG signal output to OSD controller
9	P34	O	Memory-full signal output to OSD controller
10	P35	O	Learning OK signal output to OSD controller
11	P36	O	Data reception ready signal output to OSD controller
12	P37	O	Not used (Fixed at “L”)
13	P40	O	Not used (Fixed at “L”)
14	P41	O	Not used (Fixed at “L”)
15	P42	O	Not used (Fixed at “L”)
16	P43	O	Not used (Fixed at “L”)
17	P44	O	Not used (Fixed at “L”)
18	P45	O	Not used (Fixed at “L”)
19	P46	O	Not used (Fixed at “L”)
20	P47	O	Not used (Fixed at “L”)
21	P50/SDA	O	Not used (Fixed at “L”)
22	P51/SCL	O	Not used (Fixed at “L”)
23	VSS2	–	Ground
24	VDD2	–	+5V power supply
25	P20/SDA	O	Not used (Fixed at “L”)
26	P21/SCL	O	Not used (Fixed at “L”)
27	P22/TXD	O	Not used (Fixed at “L”)
28	P23/PXD	O	Not used (Fixed at “L”)
29	P24/UCLK	O	Not used (Fixed at “L”)
30	P25	O	Not used (Fixed at “L”)
31	P26	O	Not used (Fixed at “L”)
32	P27	O	Not used (Fixed at “L”)
33	P00	O	Not used (Fixed at “L”)
34	P01	O	Not used (Fixed at “L”)
35	P02	O	Not used (Fixed at “L”)
36	P03	O	Not used (Fixed at “L”)
37	P04	O	Not used (Fixed at “L”)
38	P05	O	Not used (Fixed at “L”)
39	P06	O	Not used (Fixed at “L”)
40	P07	O	Not used (Fixed at “L”)

• Abbreviation
RC: Remote Commander
OSD: On Screen Display

Pin No.	Pin Name	I/O	Function
41	P10/SOO	O	Serial data output to OSD controller
42	P11/SI0/SB0	I	Serial data input to OSD controller
43	P12/SCKO	I	Serial clock input from OSD controller
44	P13/SO1	–	Serial data output (For on-board) (Not used)
45	P14/SI1	I	Serial data input (For on-board) (Not used)
46	P15/SCK1	I	Serial clock input (For on-board) (Not used)
47	P16/BUZ	O	Not used (Fixed at “L”)
48	P17/PWM	O	SIRCS signal output (Carrier = PWM output)
49	TEST1	O	Not used
50	RES	I	Reset input “L” reset
51	XT1/P74	–	Not used (Fixed at “H”)
52	XT2	–	Not used
53	VSS1	–	Ground
54	CF1	I	Clock input (6MHz)
55	CF2	O	Clock output (6MHz)
56	VDD1	–	+5V power supply
57	P80/AN0	I	Not used (Fixed at “L”)
58	P81/AN1	I	Not used (Fixed at “L”)
59	P82/AN2	I	Not used (Fixed at “L”)
60	P83/AN3	I	Not used (Fixed at “L”)
61	P84/AN4	I	Not used (Fixed at “L”)
62	P85/AN5	I	Not used (Fixed at “L”)
63	P86/AN6	I	Not used (Fixed at “L”)
64	P87/AN7	I	Not used (Fixed at “L”)

• Abbreviation
OSD: On Screen Display

• IC3104 A/D Converter (CXD8681M-TP)

Pin No.	Pin Name	I/O	Function
1	VRL+	O	L-ch reference voltage (+) output (+3.75V)
2	VRL–	O	L-ch reference voltage (–) output (+1.25V)
3	VCML	O	L-ch common voltage (+) output (+2.5V)
4	AINL+	I	L-ch analog voltage (+) input
5	AINL–	I	L-ch analog voltage (–) input
6	ZCAL	I	Zero calibraton input (Fixed at “H”)
7	VD	–	+5.5V power supply (Digital)
8	DGND	–	Ground (Digital)
9	CAL	O	Calibration status signal output
10	$\overline{\text{RST}}$	I	Reset input “L” : reset
11	SMODE2	I	Serial interface mode selection input (Fixed at “L”)
12	SMODE1	I	Serial interface mode selection input (Fixed at “L”)
13	LRCK	I/O	L/R channel selection clock input/output
14	SCLK	I/O	Serial data clock input/output
15	SDATA	O	Serial data output
16	FSYNC	I/O	Frame sync clock input/output (Fixed at “H”)
17	MCLK	I	Master clock input (12.288MHz)
18	CMODE	I	Master clock selection input “L” : MCLK : 256Fs, “H” : MCLK : 384Fs (Fixed at “L”)
19	SEL24/20	I	Output data range selection input “L” : 20 bit, “H” ; 24 bit (Fixed at “H”)
20	TEST	I	Test pin (Fixed at “L”)
21	BGND	–	Ground
22	AGND	–	Ground (Analog)
23	VA	–	+5V power supply (Analog)
24	AINR–	I	R-ch analog (–) input
25	AINR+	I	R-ch analog (+) input
26	VCMR	O	R-ch common voltage output (+2.5V)
27	VRR–	O	R-ch reference voltage (–) output (+1.25V)
28	VRR+	O	R-ch reference voltage (+) output (+3.75V)

• IC3308 DOLBY AC-3 demodulator (SN-PM4007A)

Pin No.	Pin Name	I/O	Function
1	GND	–	Ground
2	VDD	–	+5V power supply
3	RESET	I	System reset input “L” : reset
4	OSCON	I	Oscillation control signal input “H” : ON (Fixed at “H”)
5	DATA	I	Test pin (Fixed at “L”)
6	MCK	I	Test pin (Fixed at “L”)
7	MLTB	I	Test pin (Fixed at “L”)
8	IDST	O	Test pin (Not used)
9	IDCK	O	Test pin (Not used)
10	IDO	O	Test pin (Not used)
11	TM0	I	Test pin (Fixed at “L”)
12	ECCK	O	Test pin (Not used)
13	DEN	O	Test pin (Not used)
14	DRY	O	Test pin (Not used)
15	MSYC	O	Test pin (Not used)
16	TM1	I	Test pin (Fixed at “L”)
17	A0	O	Address data output to SRAM
18	A1	O	Address data output to SRAM
19	A2	O	Address data output to SRAM
20	A3	O	Address data output to SRAM
21	A4	O	Address data output to SRAM
22	A5	O	Address data output to SRAM
23	TM2	I	Test pin (Fixed at “L”)
24	TM3	I	Test pin (Fixed at “L”)
25	XOUT	O	Test pin (Not used)
26	XIN	I	Test pin (Fixed at “L”)
27	NEXT	I	Test pin (Fixed at “L”)
28	GND	–	Ground
29	VDD	–	+5V power supply
30	A6	O	Address data output to SRAM
31	A7	O	Address data output to SRAM
32	GND	–	Ground
33	VDD	–	+5V power supply
34	A12	O	Address data output to SRAM
35	A14	O	Address data output to SRAM
36	WE	O	Write enable signal output to SRAM “L” : active
37	A13	O	Address data output to SRAM
38	A8	O	Address data output to SRAM
39	A9	O	Address data output to SRAM
40	GND	–	Ground
41	A11	O	Address data output to SRAM
42	OE	O	Output enable output to SRAM
43	A10	O	Address data output to SRAM
44	D7	I/O	Data bus input/output with SRAM
45	D6	I/O	Data bus input/output with SRAM
46	D5	I/O	Data bus input/output with SRAM
47	D4	I/O	Data bus input/output with SRAM
48	D3	I/O	Data bus input/output with SRAM
49	D2	I/O	Data bus input/output with SRAM
50	D1	I/O	Data bus input/output with SRAM

Pin No.	Pin Name	I/O	Function
51	D0	I/O	Data bus input/output with SRAM
52	VDD	–	+5V power supply
53	GND	–	Ground
54	TI1	I	Test pin (Fixed at “H”)
55	VIN	I	VCXO input (18.432MHz)
56	VOUT	O	VCXO output (18.432MHz)
57	TI2	I	Test pin (Fixed at “L”)
58	TI3	I	Test pin (Fixed at “L”)
59	TLD8	I	Test pin (Fixed at “L”)
60	TCK	I	Test pin (Fixed at “L”)
61	TRP	O	Test pin (Not used)
62	TD0	O	Test pin (Not used)
63	PD0	O	Output of internal phase comparator (3 state)
64	TI4	I	Test pin (Fixed at “L”)
65	PDDI5	I	PDO output control input “L” : output ON
66	MUTO	O	Mute signal output “H” : mute
67	TI5	I	Test pin (Fixed at “L”)
68	VLDY	O	Test pin (Not used)
69	DASYO	O	Test pin (Not used)
70	DAOUT	O	Digital-out signal output (Serial data stream output)
71	DAIN	I	Dgital external input Through out to DAOUT when DASEL is “H” (Not used)
72	DAIN	I	Digital-out selection input (Fixed at “L”)
73	TI8	I	Test pin (Fixed at “L”)
74	C2F1	O	C2 error correction state display Outputs if corrected properly (Not used)
75	C2F0	O	C2 error correction state display Outputs number of errors at C2 (Not used)
76	C1F1	O	C2 error correction state display Outputs whether error is present at C1 (Not used)
77	C1F0	O	C2 error correction state display Outputs number of errors at C1 (Not used)
78	MUTI	I	Muting input “H” mute
79	VDD	–	+5V power supply
80	GND	–	Ground
81	AVDD	–	+5V power supply (Analog)
82	CPIN	I	Comparator input (+) (QPSK input)
83	CMIN	I	Comparator input (–)
84	AGND	–	Ground (Analog)
85	TM4	I	Test pin (Fixed at “L”)
86	VDD	–	+5V power supply
87	DIN	I	Test pin (Fixed at “L”)
88	DOUT	O	Comparate output
89	DOUTB	O	Comparate inverted output
90	C9M	O	9.216MHz output (Not used)
91	GND	–	Ground
92	WINGT	O	Test pin (Not used)
93	SYST0	O	Test pin (Not used)
94	SYST1	O	Test pin (Not used)
95	ADST0	O	Test pin (Not used)
96	ADST1	O	Test pin (Not used)
97	TM5	I	Test pin (Fixed at “L”)
98	BUNRI	I	Test pin (Fixed at “L”)
99	AGND	–	Ground (Analog)
100	AVDD	–	+5V power supply (Analog)

• IC3311 Digital Audio Interface Receiver (CXD8521M)

Pin No.	Pin Name	I/O	Function
1	DIN1	I	Data input with built-in amplifier (Responding to the coaxial optical module)
2	DIN2	I	Data input (Responding to the optical module)
3	E/DOUT	O	Emphasis, input bi-phase, validity flag output
4	VDD	–	Power supply (+5V)
5	R	I	VCO gain control input (Fixed at “H”)
6	VIN	I	VCO freerunning frequency setting input
7	VCO	O	LPF setting of PLL (Fixed at “L”)
8	GND	–	Ground
9	CKSEL	I	System clock select input (384fs, 512fs) (Connected to the power supply.)
10	XMODE	I	Reset input
11	AVOCK	I	Clock input for preventing PLL lock failure
12	TST1	I	Test input (Normally “L”)
13	TST2	I	
14	SCLK	I	Microcomputer IF clock input
15	XLAT	I	Microcomputer IF latch/chip enable input
16	SWDT	I	Microcomputer IF write data input
17	SRDT	O	Microcomputer IF read data output
18	DQSY	O	Microcomputer IF Sub-Q sync and ID sync output (Not used)
19	CKOUT	O	VCO clock output (Freerunning, 384fs, 512fs) (Not used)
20	FS128	O	128fs clock output (Not used)
21	BCK	O	Bit clock output
22	LRCK	O	L/R clock output
23	DATAO	O	Audio data output
24	EROR	O	PLL lock error mute output

• Abbreviation
VCO: Voltage Controlled Oscillator
PLL: Phase Locked Loop

• IC3410 DOLBY AC-3 decoder (DSP56009FJ88)

Pin No.	Pin Name	I/O	Function
1	AGND	–	Address buffer ground
2	MCS0	O	Chip select 0 output to S-RAM (Not used)
3	MA15	O	Address data output to S-RAM (Not used)
4	MA14	O	
5	MA13	O	
6	AVCC	–	Address bus buffer power supply (+5V)
7	MA12	O	Address data output to S-RAM(Not used)
8	AGND	–	Ground for address bus buffer
9	QVCC	–	Power supply for internal logic (+5V)
10	QGND	–	Ground for internal logic
11	MA11	O	Address data output to S-RAM (Not used)
12	MA10	O	
13	MA9	O	
14	MA8	O	
15	AGND	–	Ground for address bus buffer
16	MA7	O	Address data output to S-RAM (Not used)
17	AVCC	–	Power supply for address bus buffer (+5V)
18	MA6	O	Address data output to S-RAM (Not used)
19	MA5	O	
20	MA4	O	
21	AGND	–	Ground for address bus buffer
22	MA3	O	Address data output to S-RAM (Not used)
23	MA2	O	
24	MA1	O	
25	MA0	O	
26	SCK/SCL	I	SPI serial clock signal input from system controller
27	EXTAL	I	External frequency input (3 MHz)
28	QVCC	–	Power supply for internal logic (+5V)
29	QGND	–	Ground for internal logic
30	PINIT	I	PLL initialize input (Fixed at “L”)
31	PGND	–	Ground for PLL
32	PCAP	I	PLL filter input (Connected to 0.01 µF capacitor)
33	PVCC	–	Power supply for PLL (+5V)
34	SGND	–	Ground for serial port
35	MISO/SDA	I	Master data signal input from system controller
36	RESET	I	Reset signal input from system controller
37	MODA/IRQA	I	Mode select A (Fixed at “H”)
38	MODB/IRQB	I	Mode select B (Fixed at “L”)
39	MODC/NMI	I	Mode select C (Fixed at “H”)
40	SVCC	–	Power supply for serial port (+5V)

• Abbreviation
PLL: Phase Locked Loop

Pin No.	Pin Name	I/O	Function
41	MOSI/HA0	O	Master data signal output to system controller
42	SS/HA2	I	SPI slave select signal input from system controller
43	HREQ	I	Host request signal input from system controller
44	SGND	–	Ground for serial port
45	SDO2	O	Audio serial data 2 signal output (Not used)
46	SDO1	O	Audio serial data 1 signal output
47	SDO0	O	Audio serial data 0 signal output
48	SVCC	–	Power supply for serial port (+5V)
49	SCKT	O	Serial clock transmission
50	WST	O	Word select transmission
51	SCKR	I	Serial clock reception
52	QGND	–	Ground for internal logic
53	QVCC	–	Power supply for internal logic (+5V)
54	SGND	–	Ground for serial port
55	WSR	I	Word select reception
56	SDI1	I	Audio serial data 1 signal input
57	SDI0	I	Audio serial data 0 signal input
58	DSO	O	Debug serial signal output (Not used)
59	DSI/OS0	I	Debug serial signal input (Not used)
60	DSCK/OS1	I	Debug serial clock signal input (Not used)
61	DR	I	Debug request input (Fixed at “H”)
62	MD7	I/O	Data input/output with S-RAM (Not used)
63	MD6	I/O	
64	MD5	I/O	
65	MD4	I/O	
66	DGND	–	Ground for data bus buffer
67	MD3	I/O	Data input/output with S-RAM (Not used)
68	MD2	I/O	
69	MD1	I/O	
70	DVCC	–	Power supply for data bus buffer (+5V)
71	MD0	I/O	Data input/output with S-RAM (Not used)
72	DGND	–	Ground for data bus buffer
73	GPIO3	I/O	General DSP input/output (Not used)
74	GPIO2	I/O	
75	GPIO1	I/O	
76	GPIO0	I/O	
77	MRD	O	Write strobe signal output to S-RAM (Not used)
78	MWR	O	Read strobe signal output to S-RAM (Not used)
79	MA15/MCS1	O	Low address strobe signal output to S-RAM (Not used)
80	MA16/MCS2/MCAS	O	Column address strobe signal output to S-RAM (Not used)

• IC3412 DOLBY Surround Digital Signal Processor (SSP424023FJ88)

Pin No.	Pin Name	I/O	Function
1	AGND	–	Address buffer ground
2	MCS0	O	Chip select 0 output to S-RAM (Not used)
3	MA15	O	Address data output to S-RAM
4	MA14	O	
5	MA13	O	
6	AVCC	–	Address bus buffer power supply (+5V)
7	MA12	O	Address data output to S-RAM
8	AGND	–	Ground for address bus buffer
9	QVCC	–	Power supply for internal logic (+5V)
10	QGND	–	Ground for internal logic
11	MA11	O	Address data output to S-RAM
12	MA10	O	
13	MA9	O	
14	MA8	O	
15	AGND	–	Ground for address bus buffer
16	MA7	O	Address data output to S-RAM
17	AVCC	–	Power supply for address bus buffer (+5V)
18	MA6	O	Address data output to S-RAM
19	MA5	O	
20	MA4	O	
21	AGND	–	Ground for address bus buffer
22	MA3	O	Address data output to S-RAM
23	MA2	O	
24	MA1	O	
25	MA0	O	
26	SCK/SCL	I	SPI serial clock signal input from system controller
27	EXTAL	I	External frequency input (3 MHz)
28	QVCC	–	Power supply for internal logic (+5V)
29	QGND	–	Ground for internal logic
30	PINIT	I	PLL initialize input (Fixed at “L”)
31	PGND	–	Ground for PLL
32	PCAP	I	PLL filter input (Connected to 0.01 µF capacitor)
33	PVCC	–	Power supply for PLL (+5V)
34	SGND	–	Ground for serial port
35	MISO/SDA	I	Master data signal input from system controller
36	RESET	I	Reset signal input from system controller
37	MODA/IRQA	I	Mode select A (Fixed at “H”)
38	MODB/IRQB	I	Mode select B (Fixed at “L”)
39	MODC/NMI	I	Mode select C (Fixed at “H”)
40	SVCC	–	Power supply for serial port (+5V)

• Abbreviation
PLL: Phase Locked Loop

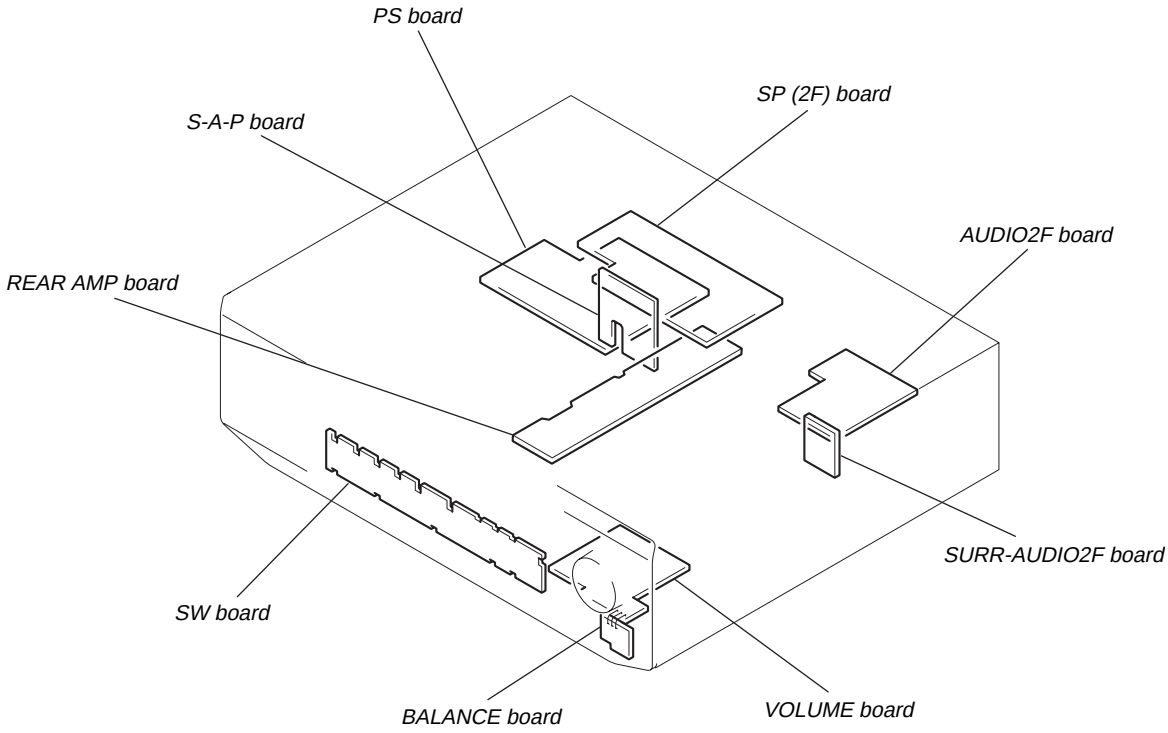
Pin No.	Pin Name	I/O	Function
41	MOSI/HA0	O	Master data signal output to system controller
42	SS/HA2	I	SPI slave select signal input from system controller
43	HREQ	I	Host request signal input from system controller
44	SGND	–	Ground for serial port
45	SDO2	O	Audio serial data 2 signal output
46	SDO1	O	Audio serial data 1 signal output
47	SDO0	O	Audio serial data 0 signal output
48	SVCC	–	Power supply for serial port (+5V)
49	SCKT	O	Serial clock transmission
50	WST	O	Word select transmission
51	SCKR	I	Serial clock reception
52	QGND	–	Ground for internal logic
53	QVCC	–	Power supply for internal logic (+5V)
54	SGND	–	Ground for serial port
55	WSR	I	Word select reception
56	SDI1	I	Audio serial data 1 signal input
57	SDI0	I	Audio serial data 0 signal input
58	DSO	O	Debug serial signal output (Not used)
59	DSI/OS0	I	Debug serial signal input (Not used)
60	DSCK/OS1	I	Debug serial clock signal input (Not used)
61	DR	I	Debug request input (Fixed at “H”)
62	MD7	I/O	Data input/output with S-RAM
63	MD6	I/O	
64	MD5	I/O	
65	MD4	I/O	
66	DGND	–	Ground for data bus buffer
67	MD3	I/O	Data input/output with S-RAM
68	MD2	I/O	
69	MD1	I/O	
70	DVCC	–	Power supply for data bus buffer (+5V)
71	MD0	I/O	Data input/output with S-RAM
72	DGND	–	Ground for data bus buffer
73	GPIO3	I/O	General DSP input/output (Not used)
74	GPIO2	I/O	
75	GPIO1	I/O	
76	GPIO0	O	General DSP output to system controller
77	MRD	O	Write strobe signal output to S-RAM
78	MWR	O	Read strobe signal output to S-RAM
79	MA15/MCS1	O	Low address strobe signal output to S-RAM (Not used)
80	MA16/MCS2/MCAS	O	Column address strobe signal output to S-RAM

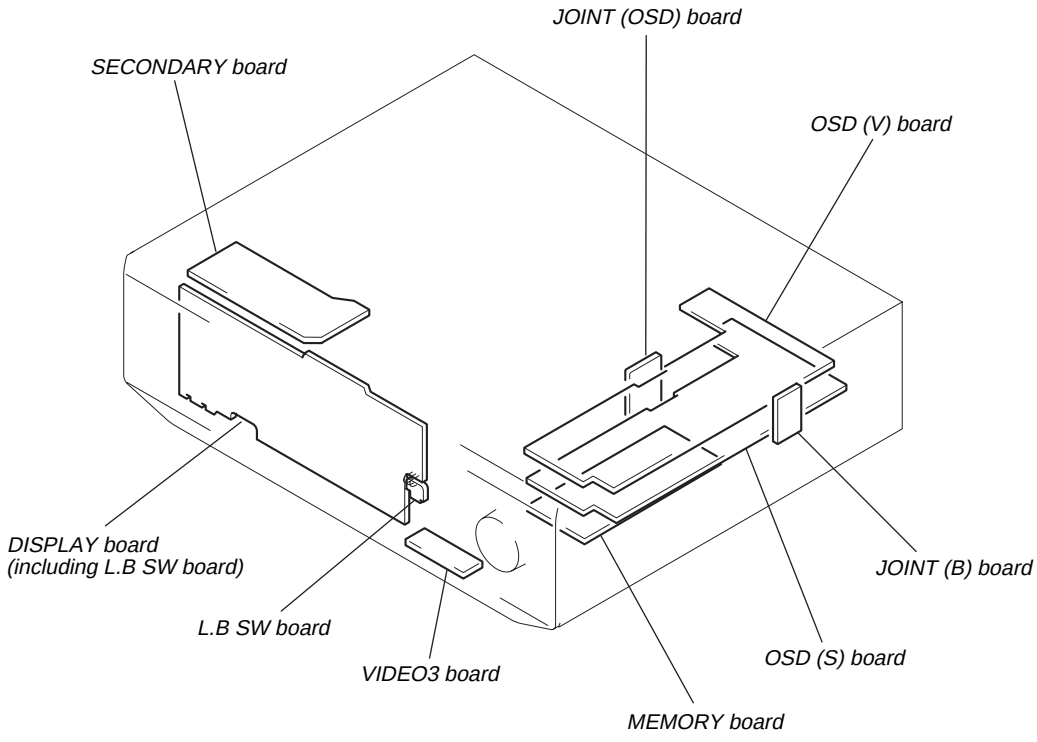
• IC3413 System Controller (MB90641APF-G-101-BND)

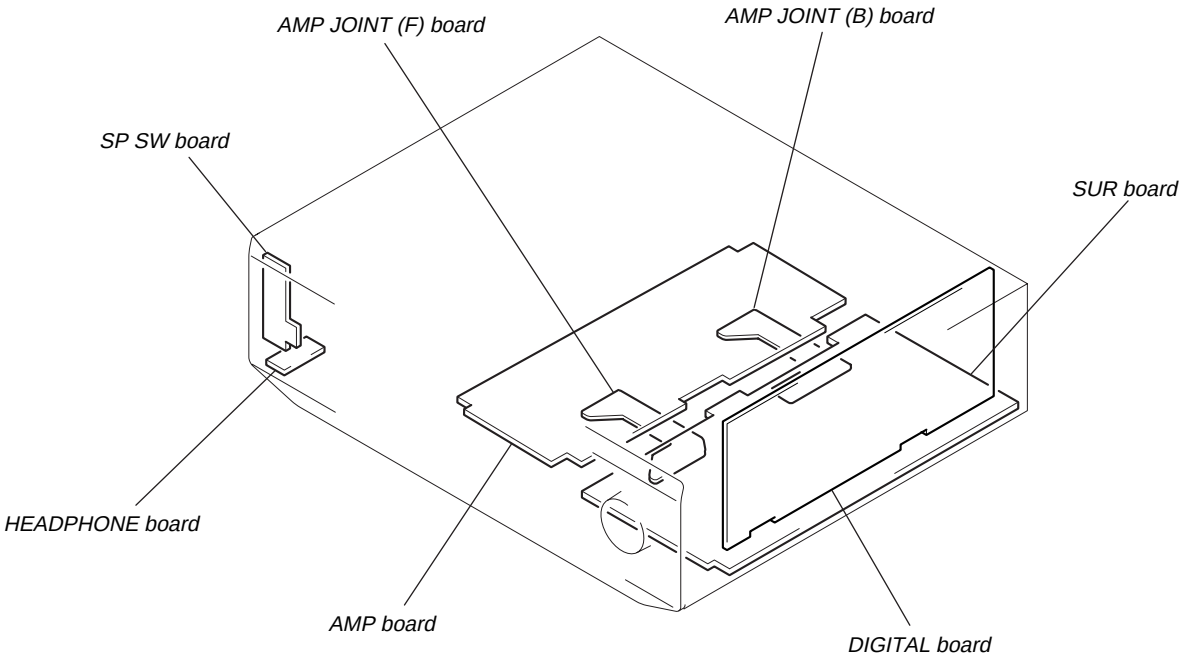
Pin No.	Pin Name	I/O	Function
1	RF ERR	I	Error input from DOLBY AC-3 demodulator “H” : error
2	RF RESET	O	Reset output to DOLBY AC-3 demodulator “L” : reset
3	STOP	I	Power supply failure detection input
4	RDATA	I	Data read signal input from CXD8521M
5	WDATA	O	Data write signal output to CXD8521M
6	DIRLAT	O	Latch output to CXD8521M
7	DIRCLK	O	Clock output to CXD8521M
8	DIRERR	I	Error signal input from CXD8521M “H” : error
9	ANG/DIG	O	Analog/Digital switching, Digital at “H”
10	A/DINT	O	Initialize output to A/D converter
11	VSS	–	Ground
12	HREQ	O	Host request signal output to DSP56009FJ88
13	SS	O	SPI slave select signal output to DSP56009FJ88
14	MOSI	O	Master data signal output to DSP56009FJ88
15	RESET	O	Reset signal output to DSP56009FJ88 “L” : reset
16	MISO	I	Master data signal input from DSP56009FJ88
17	CLOCK	O	SPI serial clock output to DSP56009FJ88
18	HREQ	O	Host request signal output to SSP424023FJ88
19	SS	O	SPI slave select signal output to SSP424023FJ88
20	MOSI	O	Master data signal output to SSP424023FJ88
21	RESET	O	Reset signal output to SSP424023FJ88 “L” : reset
22	MISO	I	Master data signal input from SSP424023FJ88
23	VCC	–	+5V power supply
24	CLOCK	O	SPI serial clock output to SSP424023FJ88
25	D/AINT	O	Initialize output to CXD8505BQ “L” : initialize
26	D/ALAT	O	Latch output to CXD8505BQ
27	C	–	Connect to Capacitor
28	D/ACLK	O	Clock output to CXD8505BQ
29	D/ADATA	O	Data output to CXD8505BQ
30	—	O	Initialize output “L” : initialize (Not used)
31	—	–	Not used
32	—	–	Not used
33	—	–	Not used
34	VCC	–	+5V power supply
35	VCC	–	+5V power supply
36	VSS	–	Ground
37	VSS	–	Ground
38	LOW FRQ LED	I	Low frequency LED signal input from SSP424023FJ88
39	GAIN FRONT 8DB	O	Front speaker 8dB gain signal output
40	GAIN FRONT 4DB	O	Front speaker 4dB gain signal output
41	GAIN FRONT 2DB	O	Front speaker 2dB gain signal output
42	VSS	–	Ground
43	—	–	Not used
44	—	–	Not used
45	—	–	Not used
46	—	–	Not used
47	—	–	Not used
48	STOP	I	Power supply failure detection input
49	MD0	I	Mode select input (Fixed at “H”)
50	MD1	I	Mode select input (Fixed at “H”)

Pin No.	Pin Name	I/O	Function
51	MD2	I	Mode select input (Fixed at “L”)
52	STANDBY	I	Power on detect input (Fixed at “H”)
53	—	–	Not used
54	DISPMR	I	Master request signal input from mode controller
55	DISPDATA	I	Master data input from mode controller
56	SLVDATA/REQ	O	Slave data request signal output to mode controller
57	DISPCLK	I	Master clock input from mode controller
58	LAT	O	Latch output to ATT (Rear, Center, woofer)
59	DATA	O	Signal data output to ATT (Rear, Center, woofer)
60	CLK	O	Signal clock output to ATT (Rear, Center, woofer)
61	DATAIN	O	Serial data output to tuner
62	AUTSTOP	O	Auto stop signal output to tuner
63	STEREO	O	Stereo ID output to tuner
64	—	–	Not used
65	—	–	Not used
66	HIFI/ES	–	Not used (Fixed at “H”)
67	PROTEC	O	Protector signal output
68	VIDEO-A	O	Video-input switching signal output
69	VIDEO-B	O	Video-input switching signal output
70	VIDEO-E	O	Video control E signal output
71	VIDEO-INH	O	Video-out inhibit signal output “L” : inhibit
72	FUNMUTE	O	Function muting signal output “H” : mute
73	TUNERMUTE	O	Tuner muting signal output “H” : mute
74	SURR-MUTE	O	Surround muting signal output “H” : mute
75	AC-MUTE	O	Mute signal output to Front/Rear power amp
76	RM-MUTE	O	–20dB muting signal output “H” : mute
77	RESET	I	Reset signal input “L” : reset
78	RY-FRONT/A	O	Not used
79	RY-FRONT/B	O	Not used
80	RY FRONT	O	Front speaker relay switching output “H” : ON
81	VSS	–	Ground
82	XIN	I	System clock input (4MHz)
83	XOUT	O	System clock output (4MHz)
84	VCC	–	+5V power supply
85	RY-PREAMP	–	Not used
86	RY-CENTER	O	Center speaker/Super woofer relay switching output “H” : ON
87	RY-REAR	O	Rear speaker relay switching output “H” : ON
88	RY-HP	O	Headphones relay switching output “H” : ON
89	RY-4/8	O	Not used
90	RY-POWER	O	Power relay switching output “H” : ON
91	—	–	Not used
92	—	–	Not used
93	—	–	Not used
94	RY-DIRECT-PASS	–	Direct pass relay switching output “H” : ON
95	—	–	Not used
96	—	–	Not used
97	—	–	Not used
98	DIG-IN2	O	Digital-input selection signal output
99	DIG-IN1	O	Digital-input selection signal output
100	DIG-IN0	O	Digital-input selection signal output

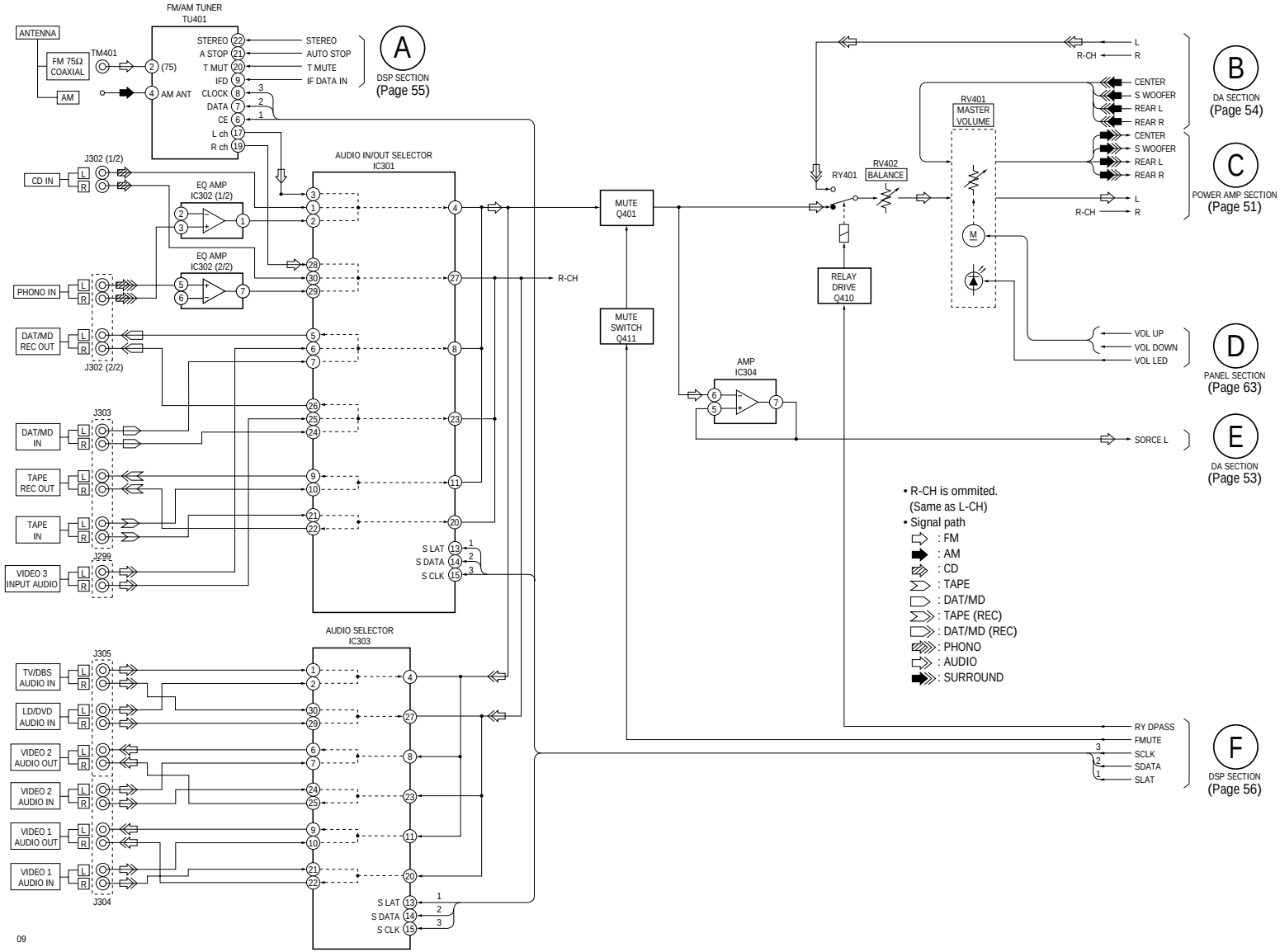
6-2. CIRCUIT BOARDS LOCATION



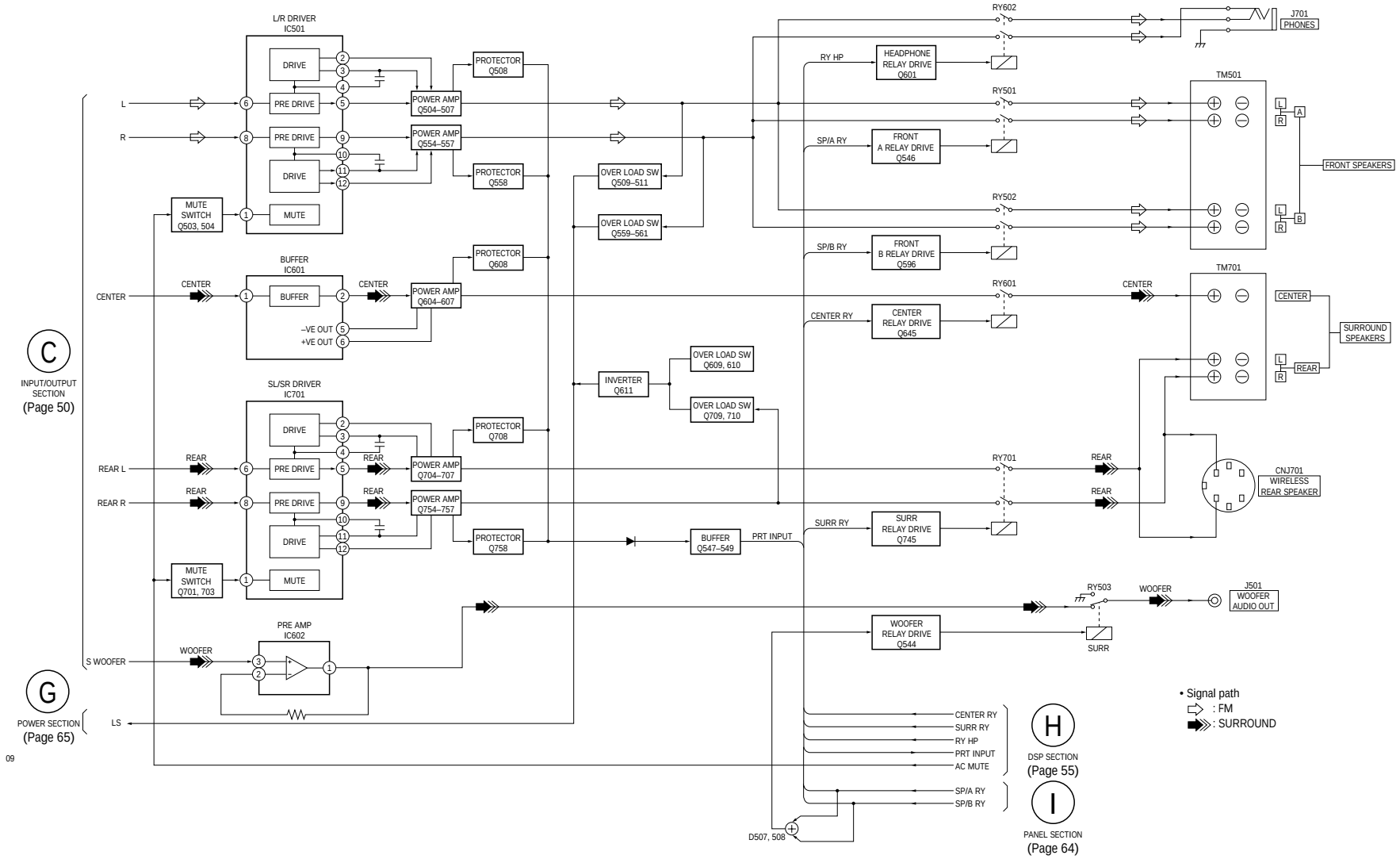



AMP JOINT (F) board
AMP JOINT (B) board
SP SW board
SUR board
HEADPHONE board
AMP board
DIGITAL board

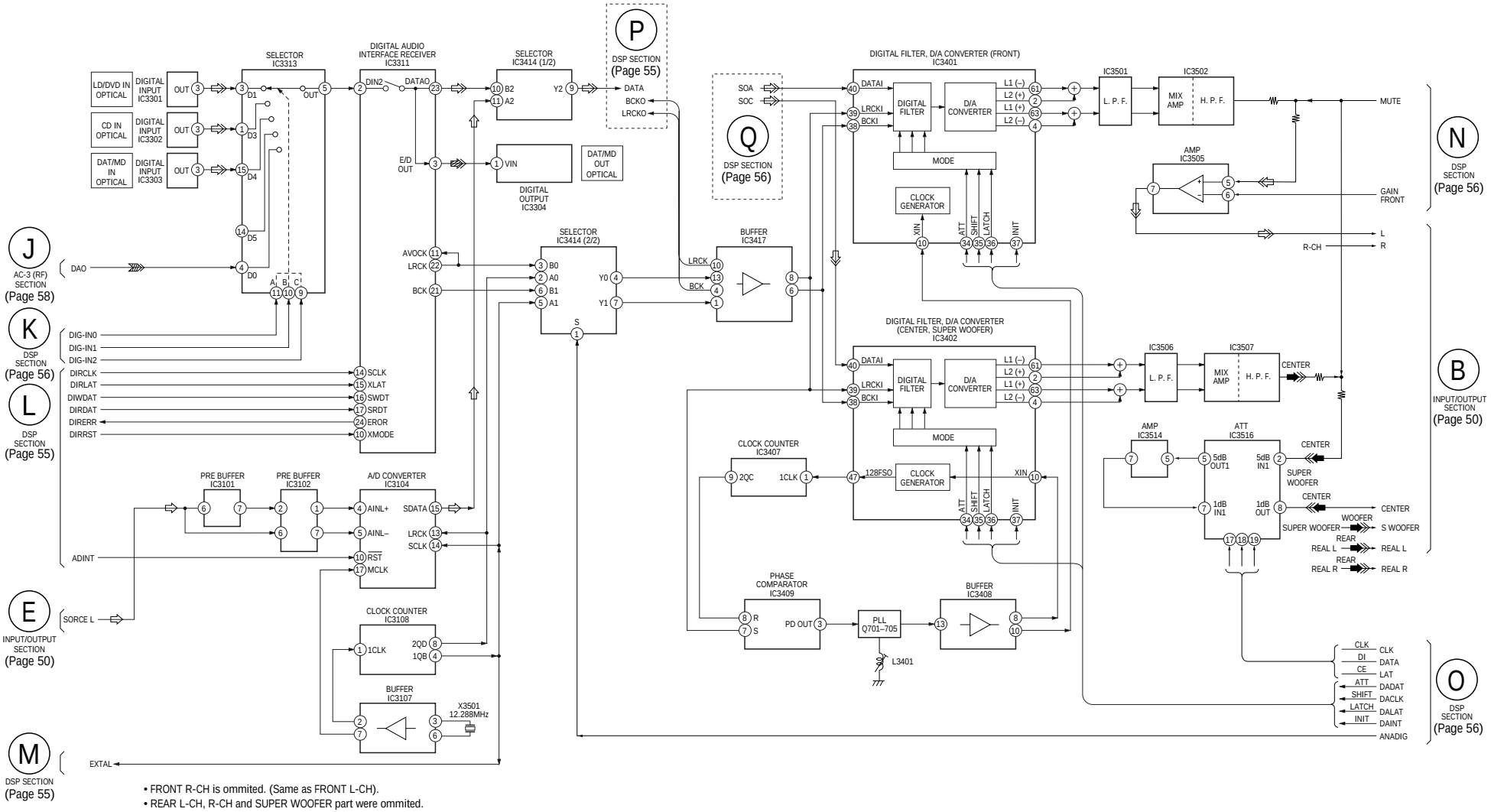
6-3. BLOCK DIAGRAMS
— INPUT/OUTPUT SECTION —



— POWER AMP SECTION —



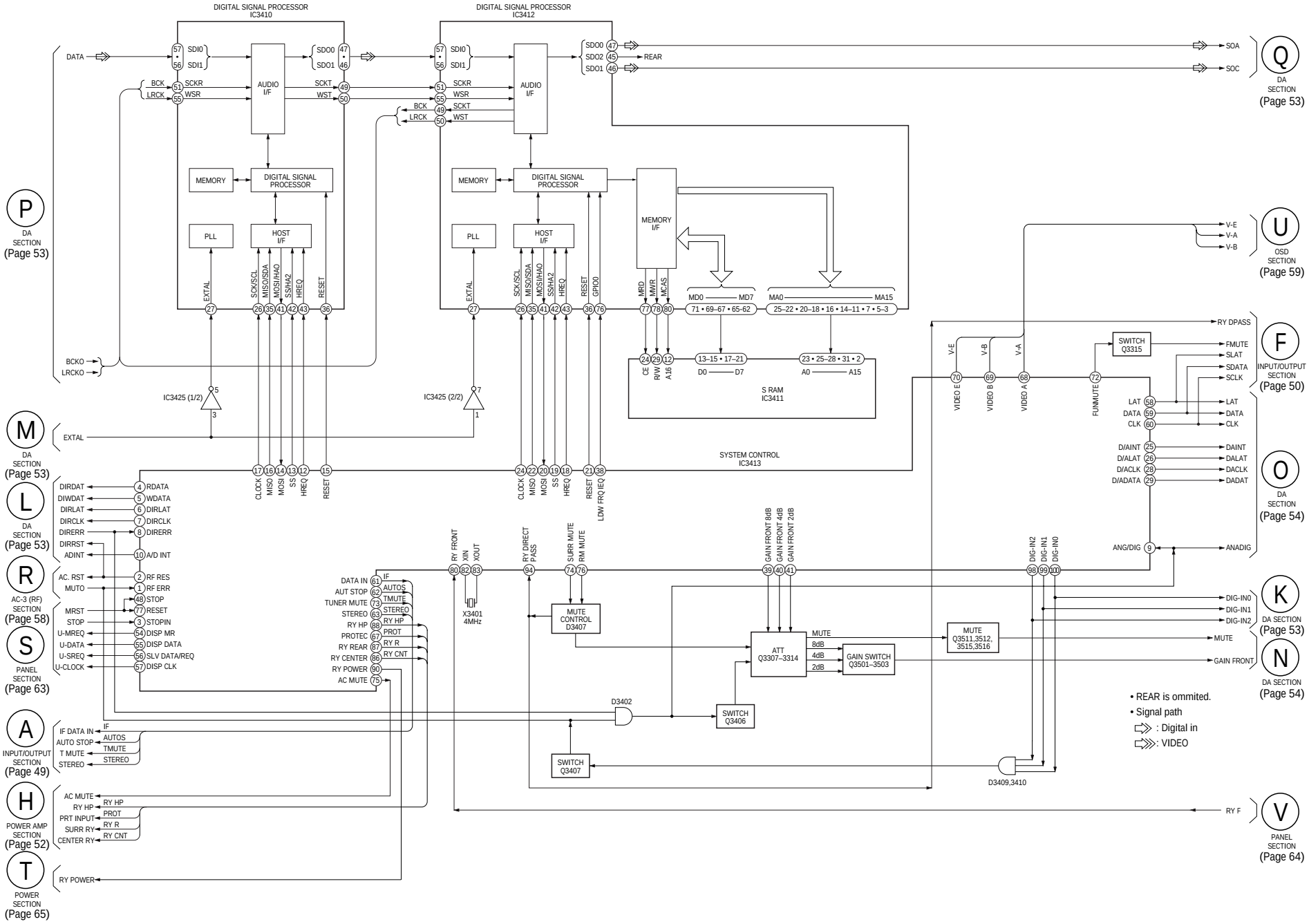
— DA SECTION —



- FRONT R-CH is ommited. (Same as FRONT L-CH).
- REAR L-CH, R-CH and SUPER WOOFER part were ommited. (Same as CENTER)
- Signal path
  - : FM
  - : Digital in
  - : Digital out
  - : RF (AC-3)
  - : SURROUND

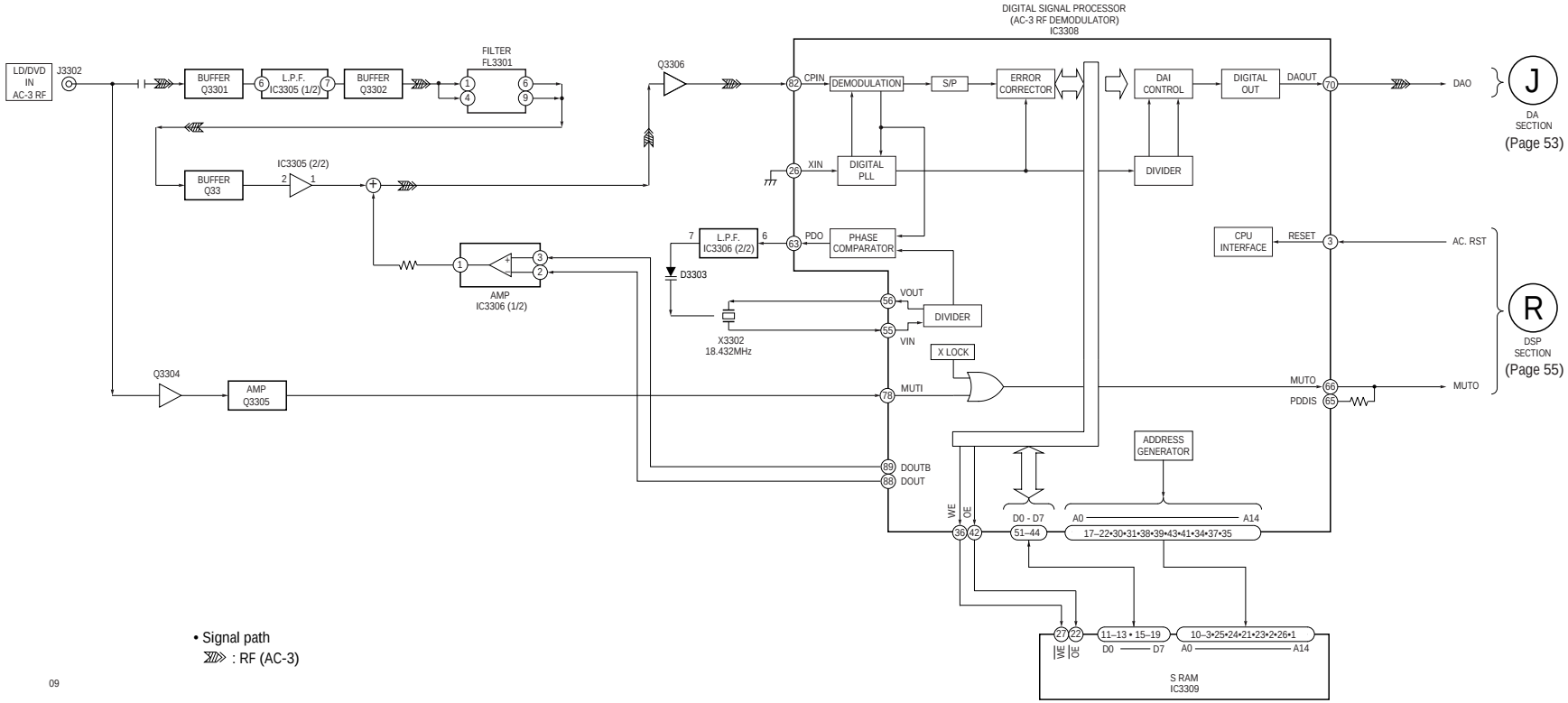
09

— DSP SECTION —

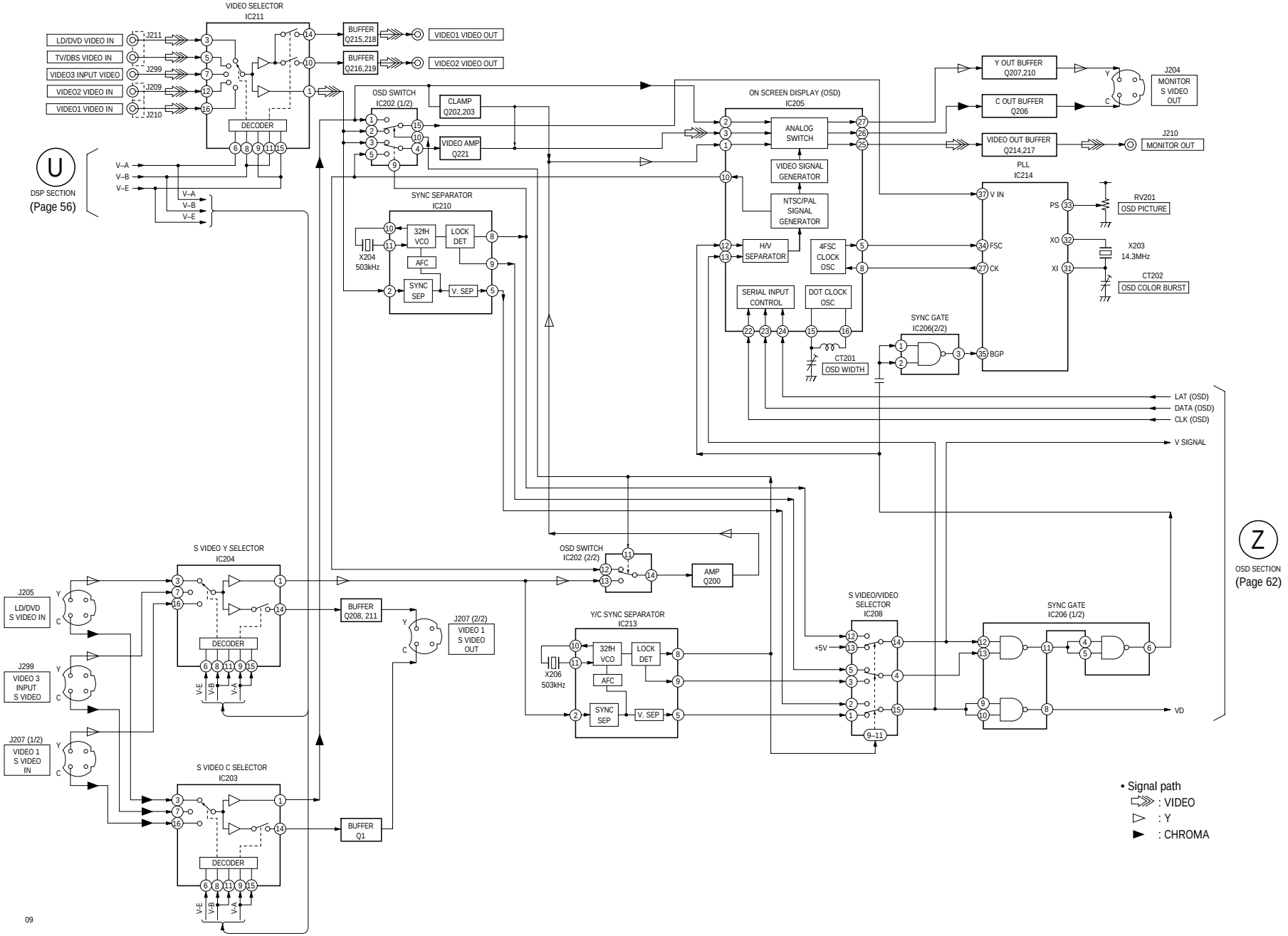


09

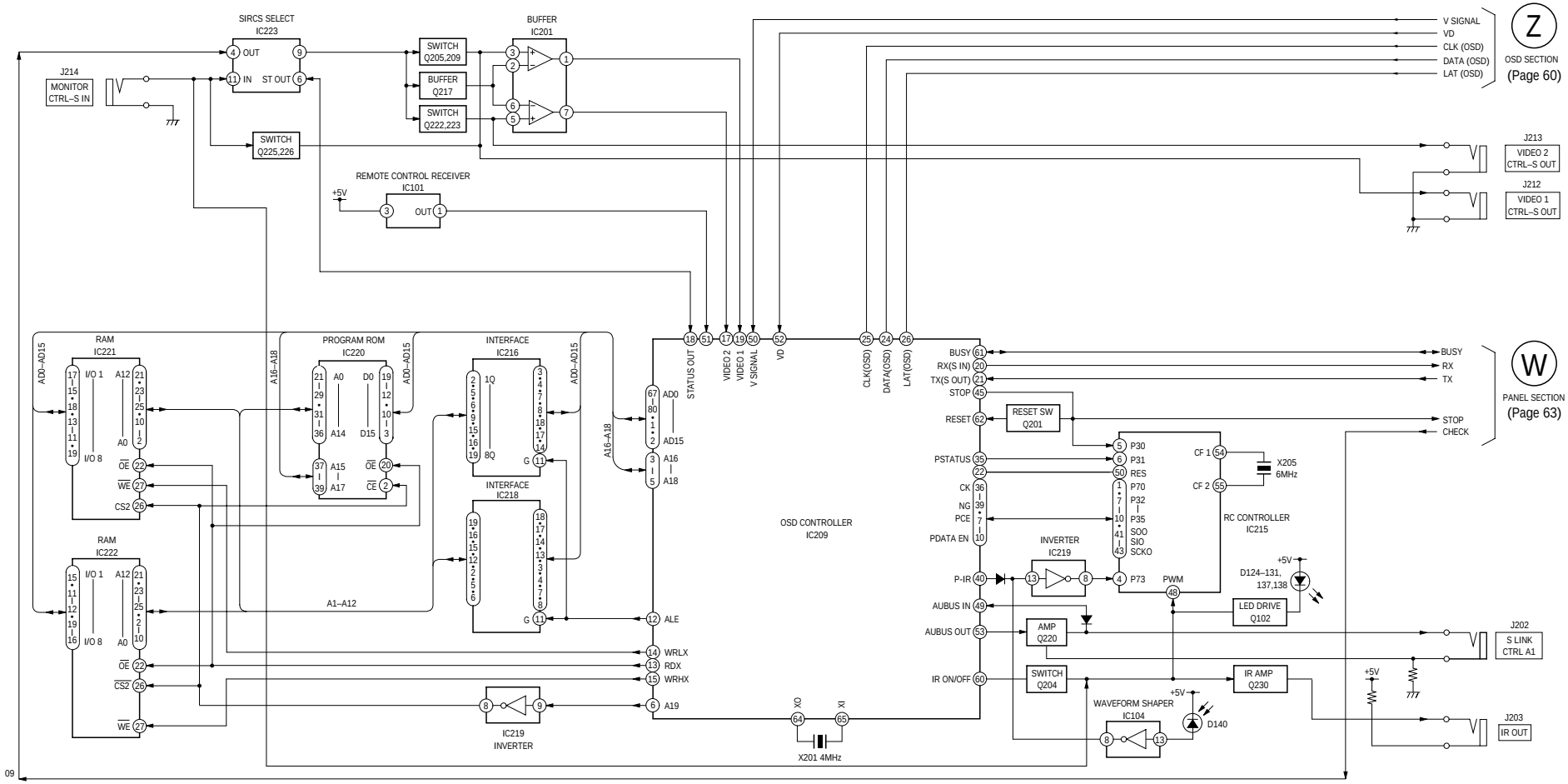
— AC-3 (RF) SECTION —



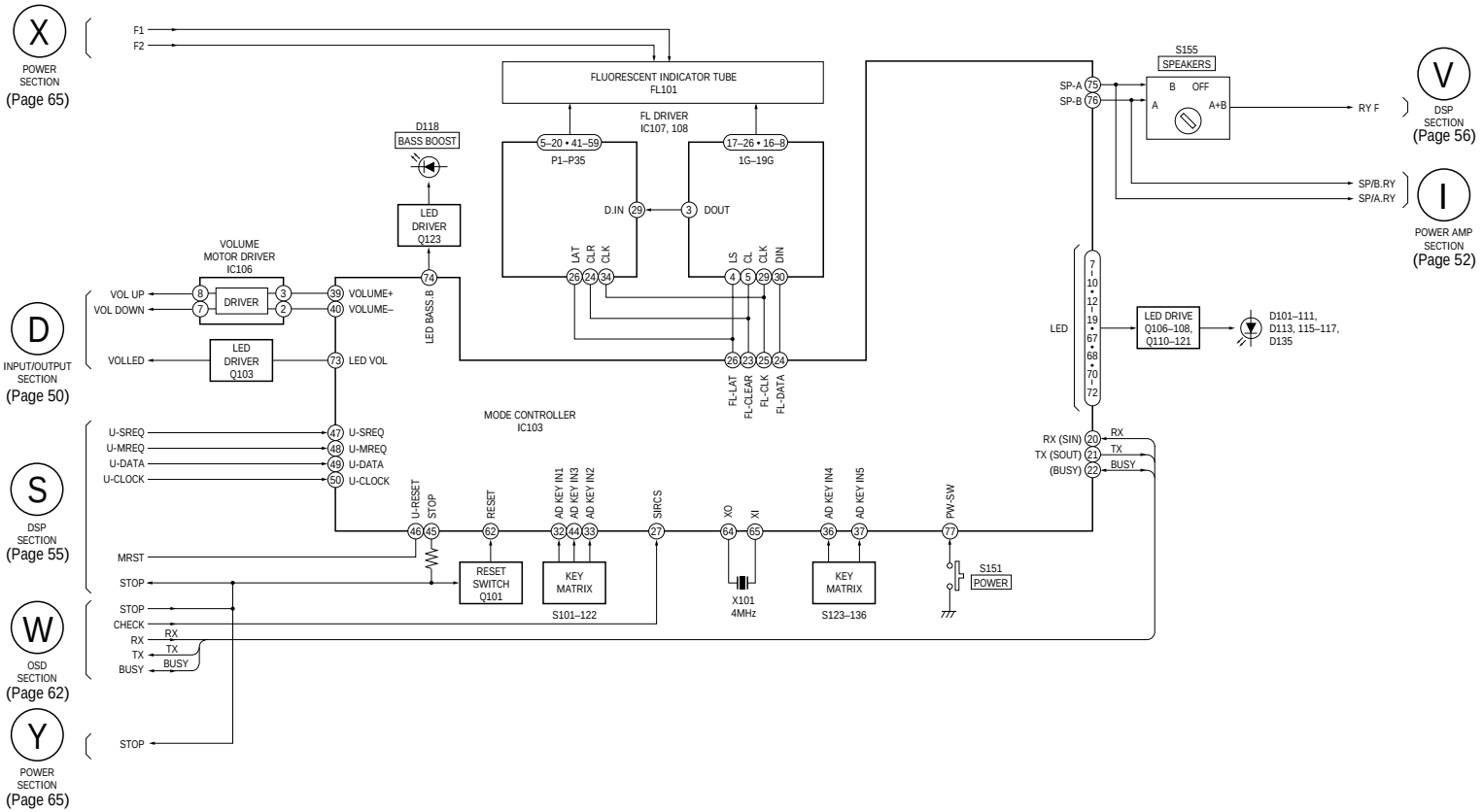
— OSD SECTION —


VIDEO SELECTOR
IC211
LD/DVD VIDEO IN
TV/DBS VIDEO IN
VIDEO3 INPUT VIDEO
VIDEO2 VIDEO IN
VIDEO1 VIDEO IN
J211
J299
J209
J210
DECODER
BUFFER Q215,218
BUFFER Q216,219
VIDEO1 VIDEO OUT
VIDEO2 VIDEO OUT
U
DSP SECTION
(Page 56)
V–A
V–B
V–E
OSD SWITCH
IC202 (1/2)
CLAMP Q202,203
VIDEO AMP Q221
SYNC SEPARATOR
IC210
X204
503kHz
32fH VCO
LOCK DET
AFC
SYNC SEP
V. SEP
ON SCREEN DISPLAY (OSD)
IC205
ANALOG SWITCH
VIDEO SIGNAL GENERATOR
NTSC/PAL SIGNAL GENERATOR
H/V SEPARATOR
4FSC CLOCK OSC
SERIAL INPUT CONTROL
DOT CLOCK OSC
Y OUT BUFFER Q207,210
C OUT BUFFER Q206
VIDEO OUT BUFFER Q214,217
J204
MONITOR S VIDEO OUT
J210
MONITOR OUT
PLL
IC214
V IN
FSC
CK
BGP
PS
XO
XI
RV201
OSD PICTURE
X203
14.3MHz
CT202
OSD COLOR BURST
SYNC GATE
IC206(2/2)
CT201
OSD WIDTH
LAT (OSD)
DATA (OSD)
CLK (OSD)
V SIGNAL
S VIDEO Y SELECTOR
IC204
J205
LD/DVD S VIDEO IN
J299
VIDEO 3 INPUT S VIDEO
J207 (1/2)
VIDEO 1 S VIDEO IN
BUFFER Q208, 211
J207 (2/2)
VIDEO 1 S VIDEO OUT
OSD SWITCH
IC202 (2/2)
AMP Q200
Y/C SYNC SEPARATOR
IC213
X206
503kHz
S VIDEO/VIDEO SELECTOR
IC208
+5V
SYNC GATE
IC206 (1/2)
VD
S VIDEO C SELECTOR
IC203
BUFFER Q1
Z
OSD SECTION
(Page 62)
• Signal path
: VIDEO
: Y
: CHROMA
09

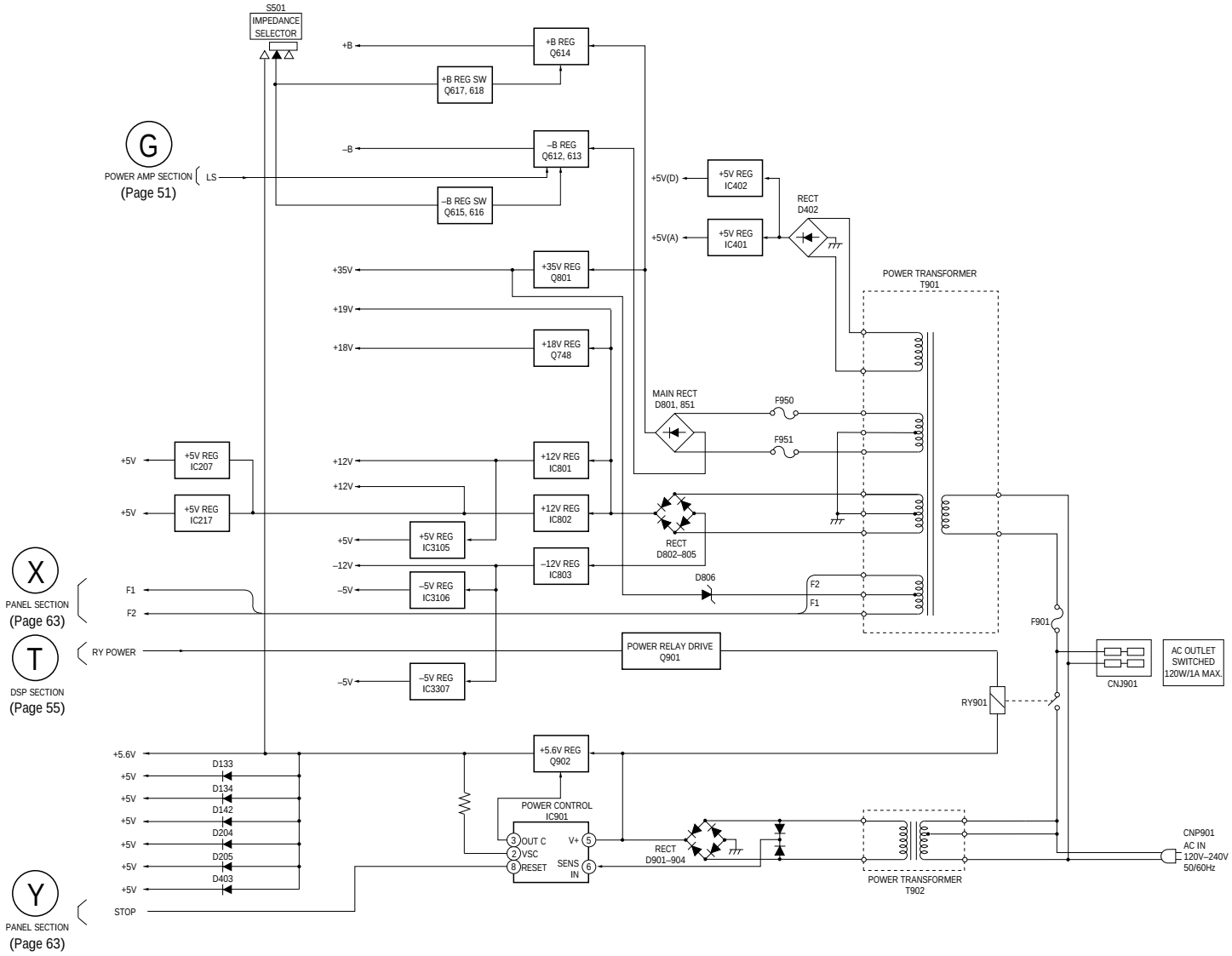
— OSD CONTROL SECTION —



— PANEL SECTION —



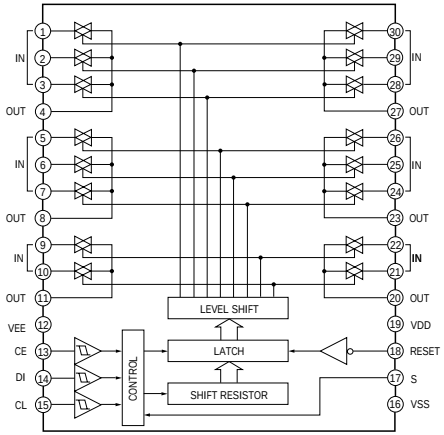
— POWER SECTION —



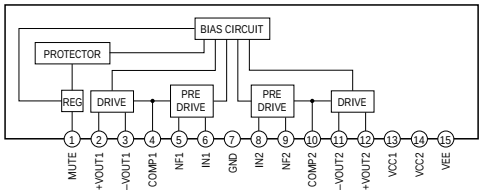
6-16. IC BLOCK DIAGRAMS

• INPUT/OUTPUT SECTION

IC301, 303 LC7822

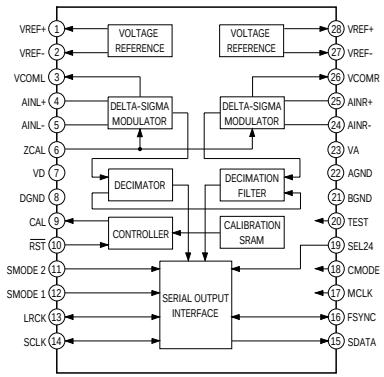


IC501 uPC2581V

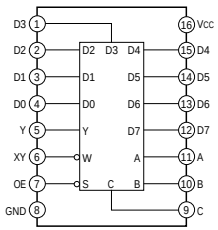


• DIGITAL (CONTROL) SECTION

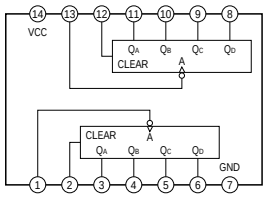
IC3104 CXD8681M-TP



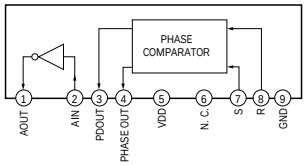
IC3313 TC74HC151AF



IC3108, 3407 TC74HC393AF

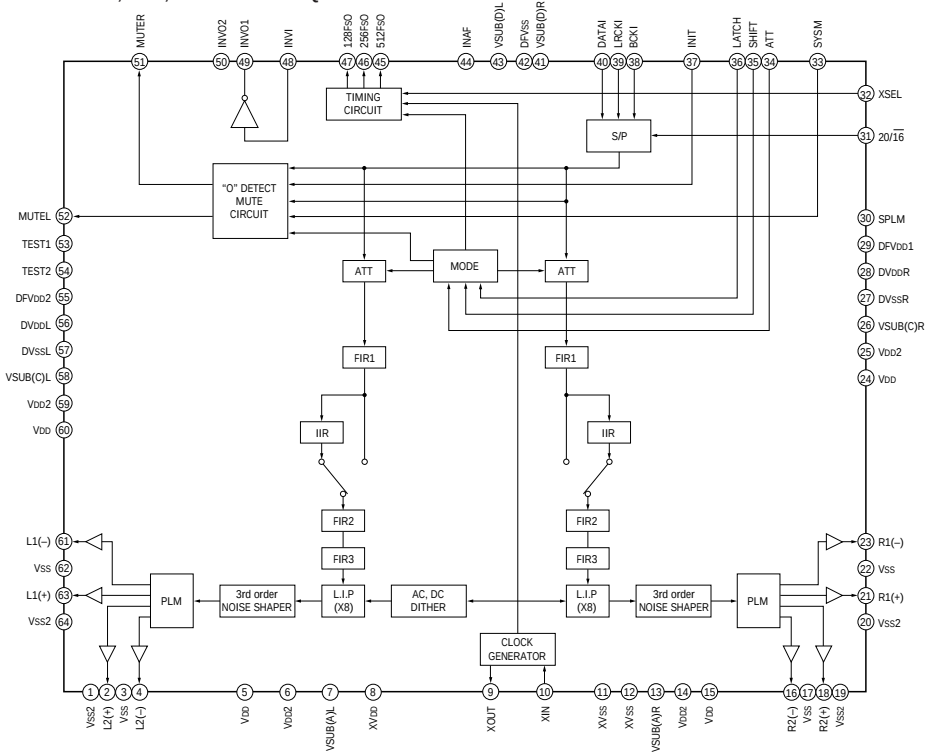


IC3409 TC5081AP

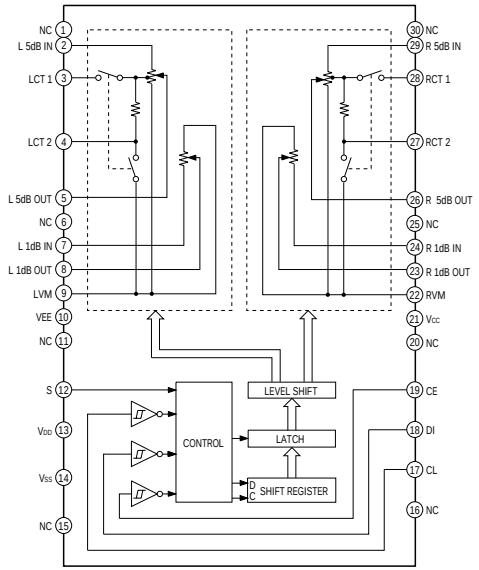


• DIGITAL (D/A) SECTION

IC3401, 3402, 3403 CXD8505BQ

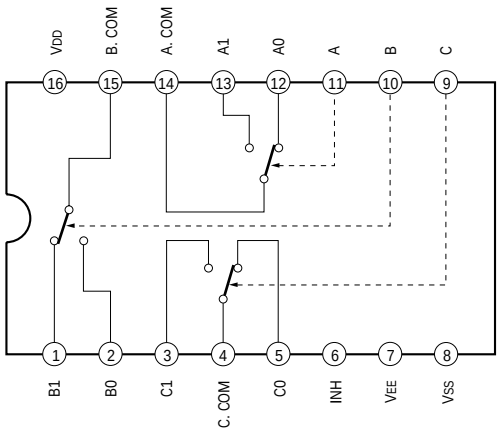


IC3516, 3517 LC7535M

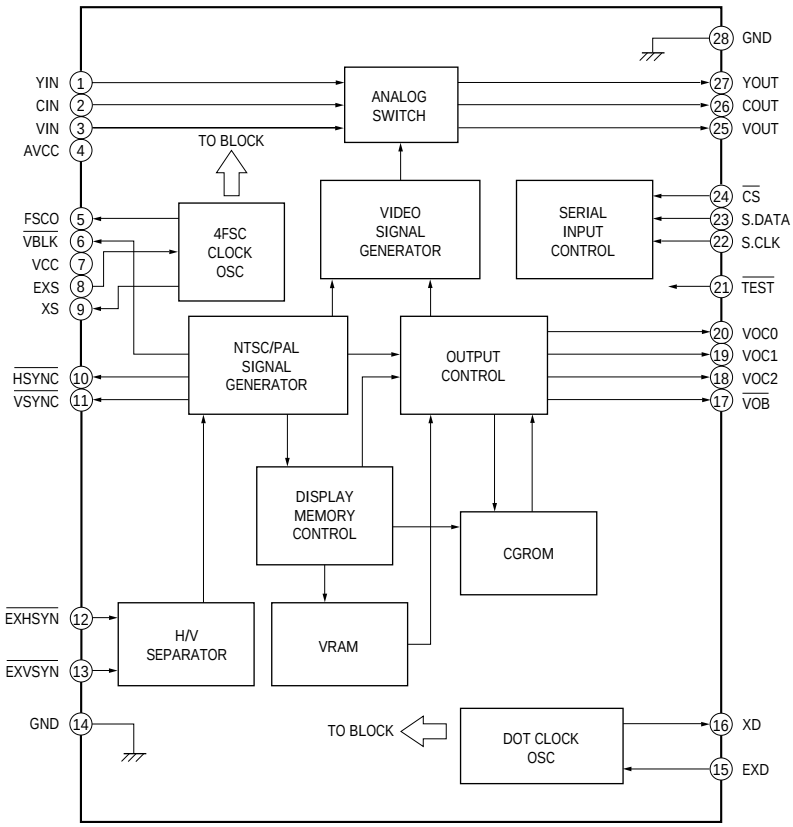


• OSD SECTION

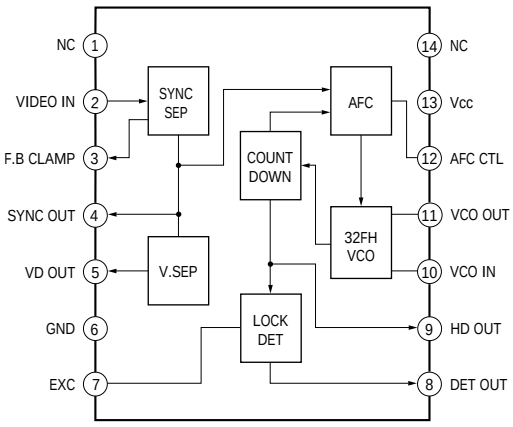
IC202 uPD4053BC



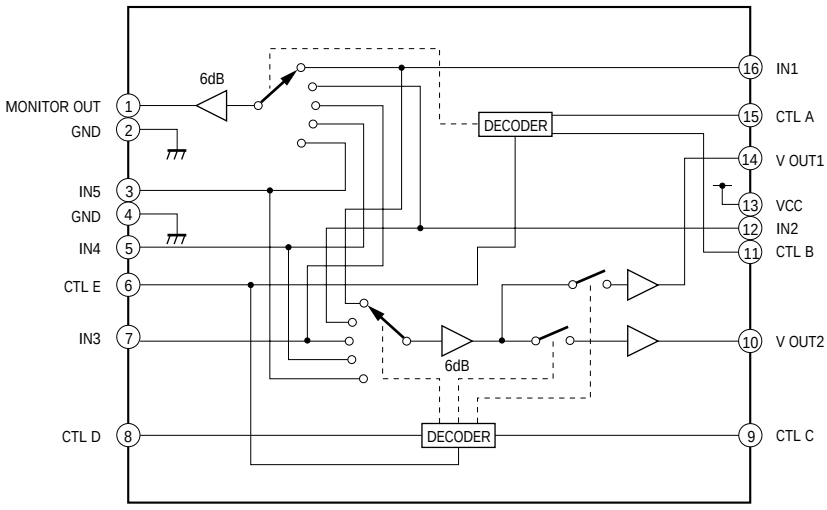
IC205 MB90095PF-186-BND



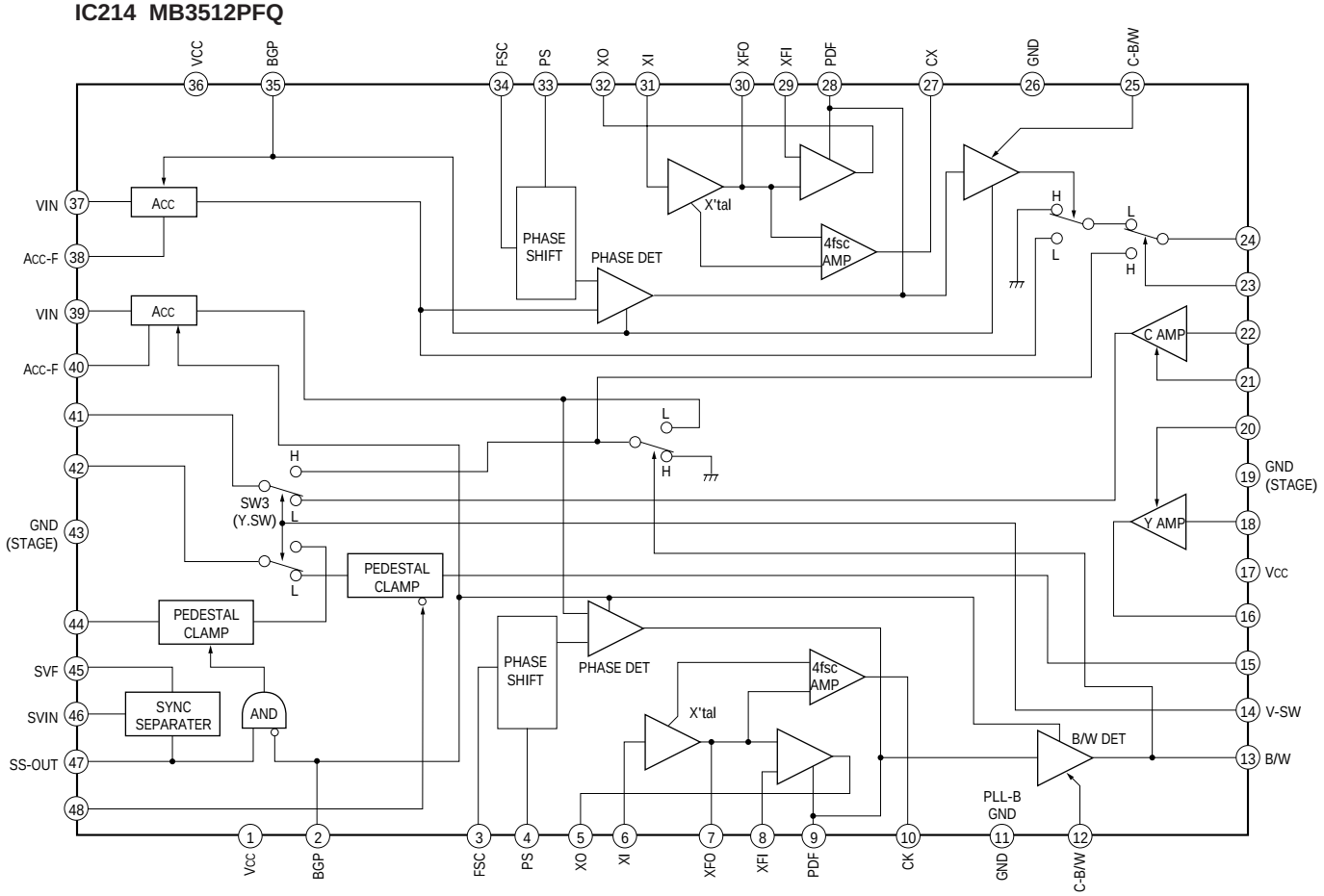
IC210, 213 LA7217



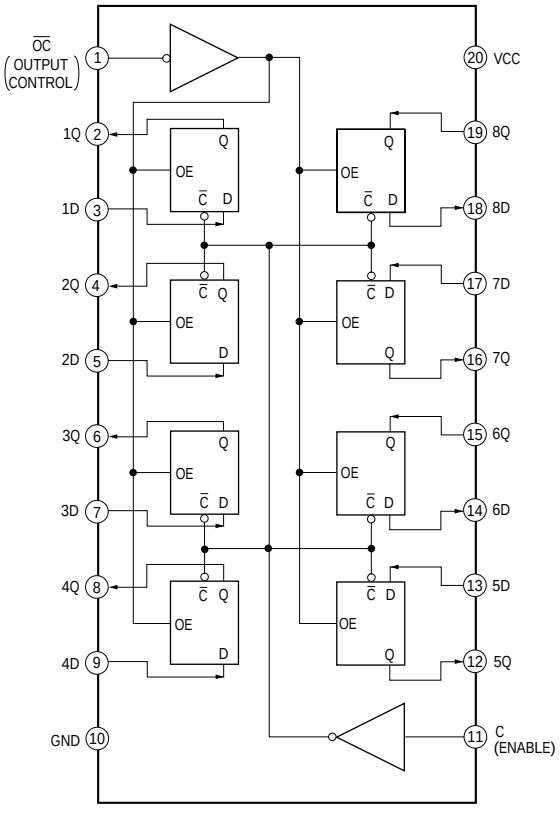
IC203, 204, 211 SN761200



IC214 MB3512PFQ

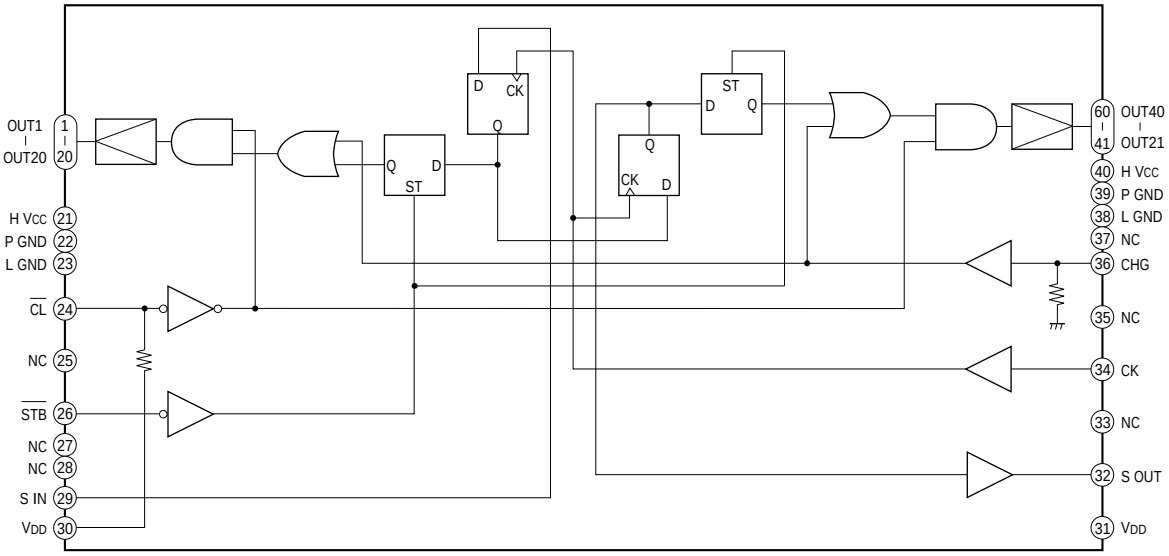


IC216, 218 SN74HC373AN

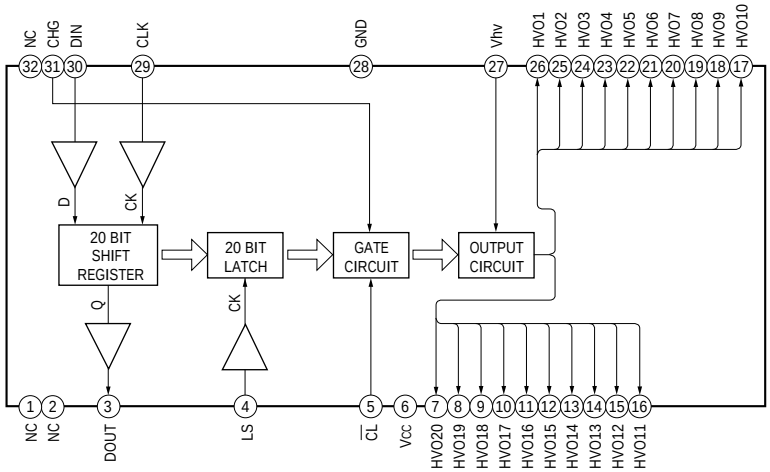


• PANEL SECITON

IC107 TD62C950RF

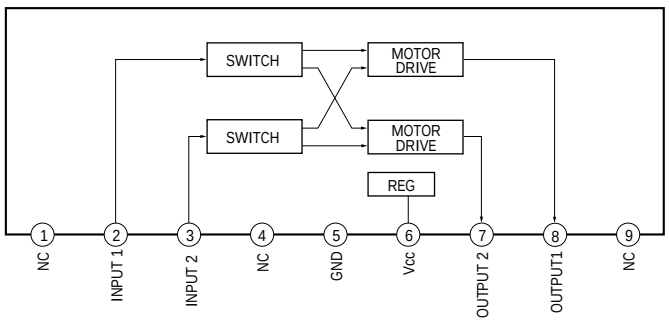


IC108 MSC1164GS-K

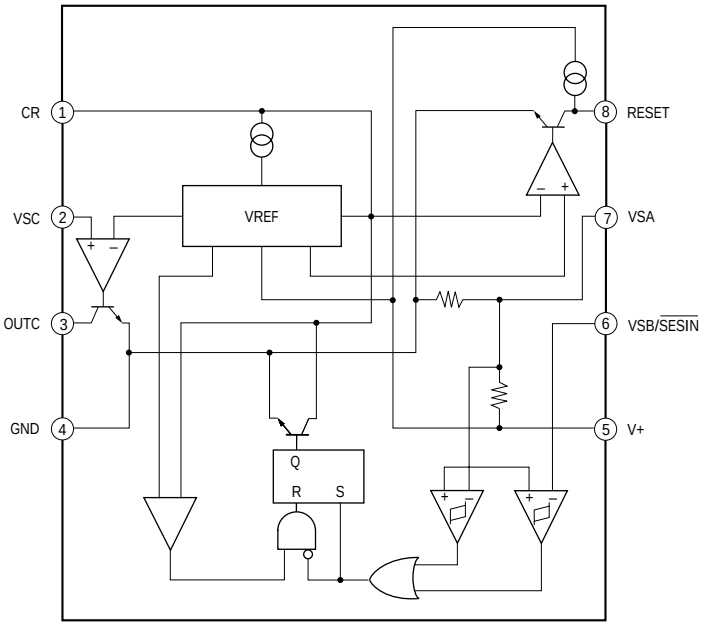


• POWER AMP SECTION

IC106 BA6208



IC901 NJM2103D



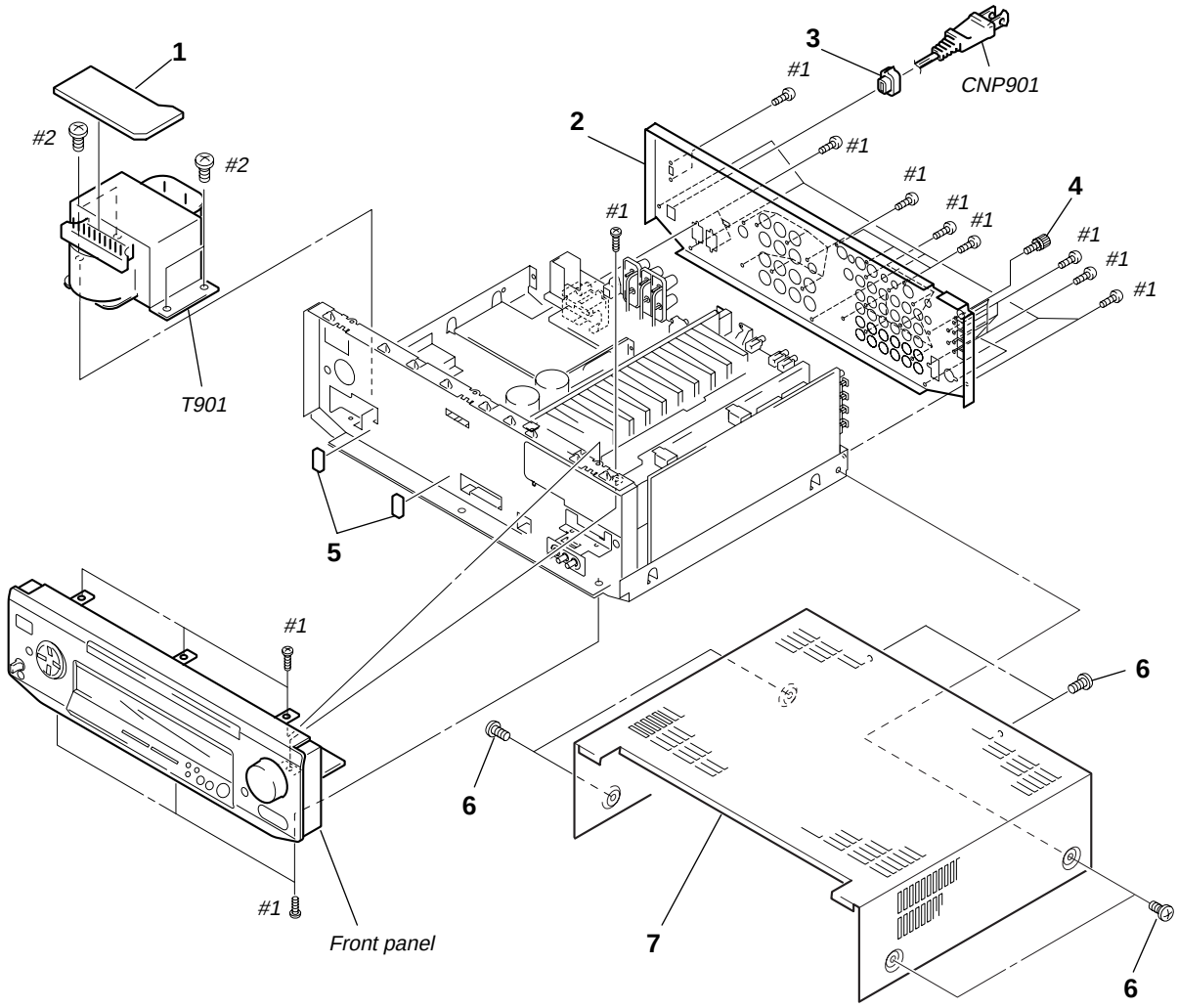
SECTION 7
EXPLODED VIEWS

NOTE:
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : Canadian model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

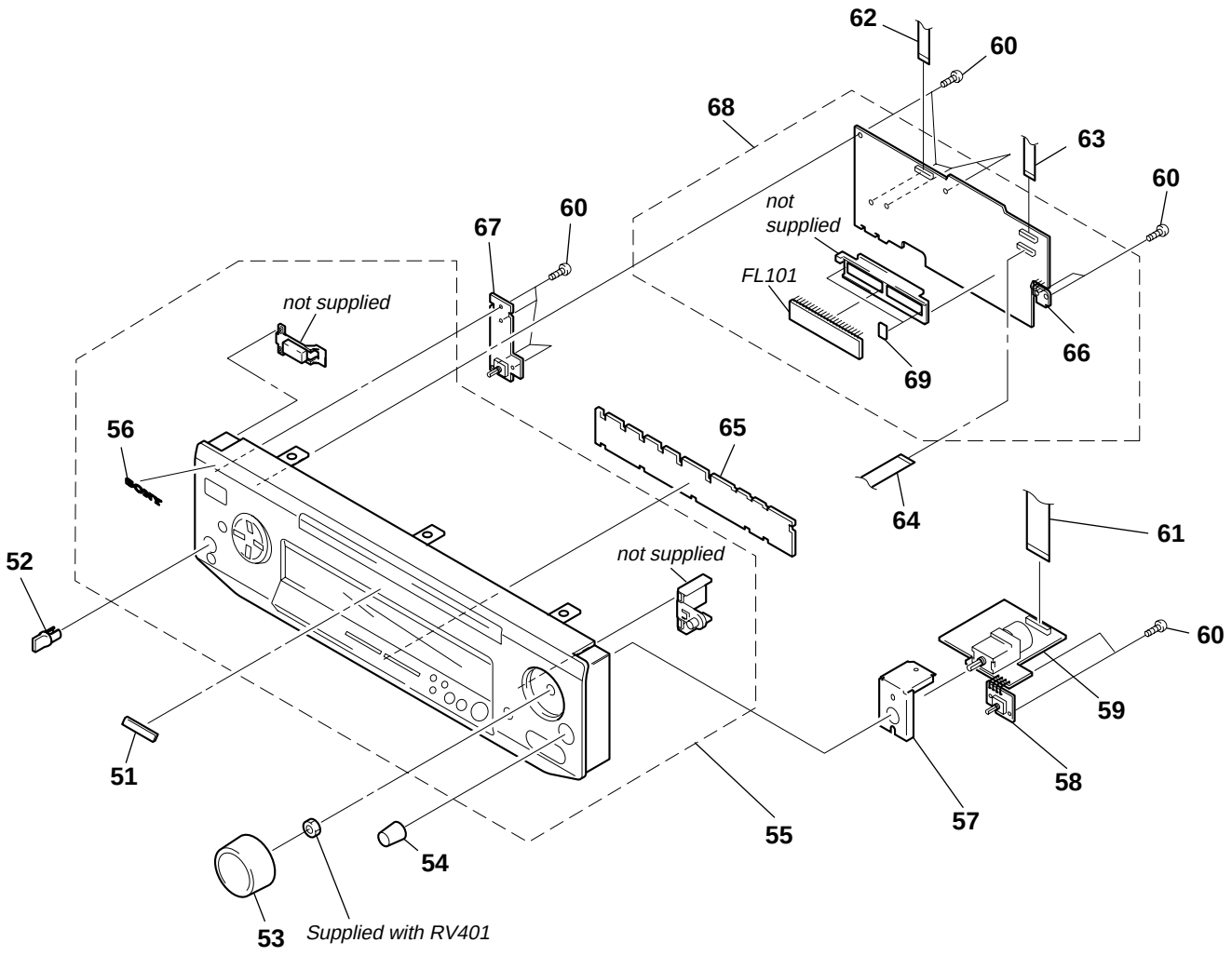
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

7-1. CASE SECTION



Ref. No.	Part No.	Description	Remark
* 1	1-665-783-11	SECONDARY BOARD	
* 2	4-989-885-41	PANEL, BACK (US)	
* 2	4-989-885-51	PANEL, BACK (CND)	
* 3	3-703-244-00	BUSHING (2104), CORD	
4	4-947-010-01	SCREW, FEEDER FIXED	
5	4-985-642-01	CUSHION	
6	3-704-366-01	SCREW (CASE)(M3X8)	
* 7	4-982-682-01	CASE (414532)	
⚠CNP901	1-769-743-11	CORD, POWER	
⚠T901	1-431-281-11	TRANSFORMER, POWER (US)	
⚠T901	1-431-282-11	TRANSFORMER, POWER (CND)	

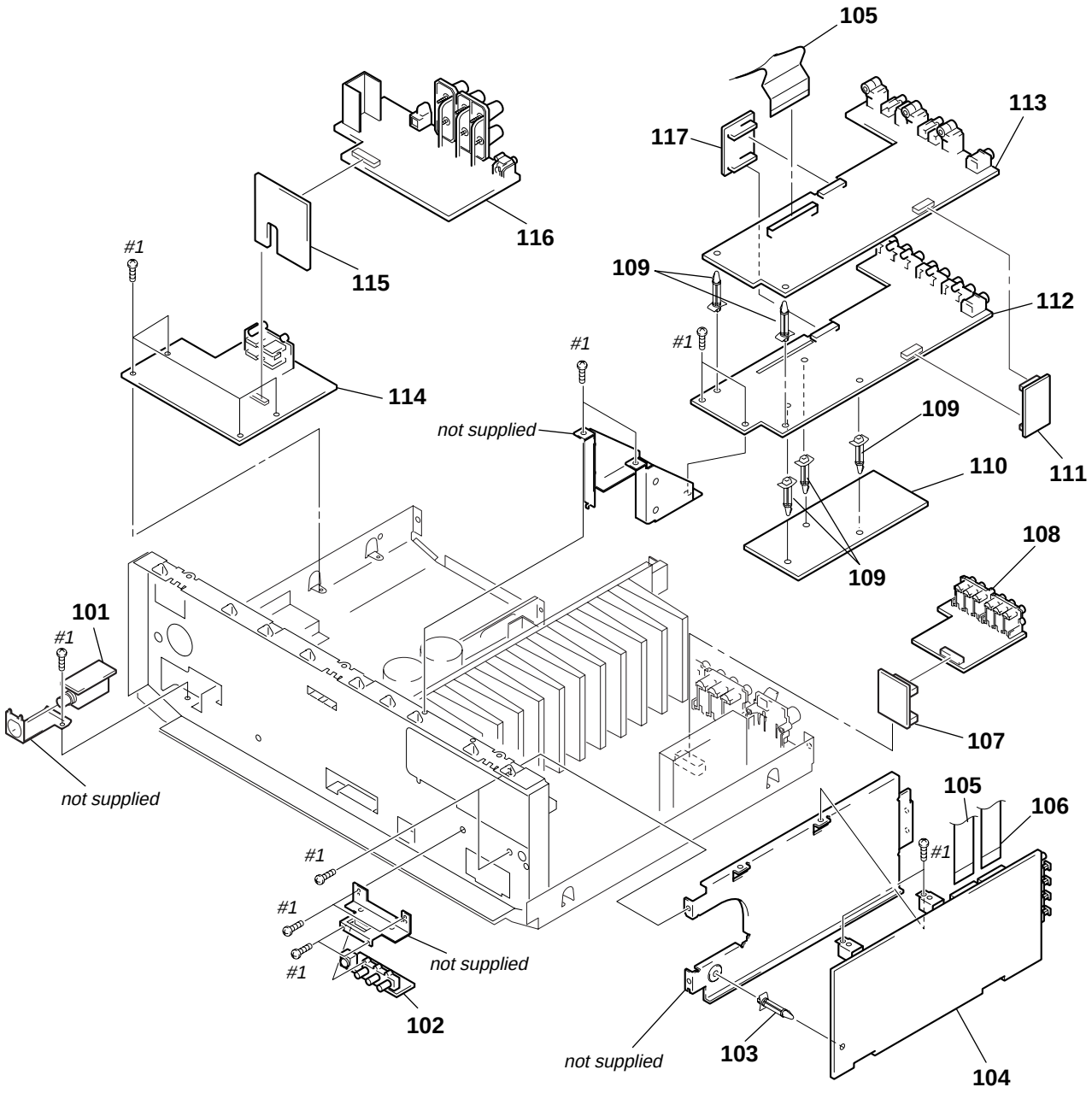
7-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	4-991-066-01	EMBLEM, VISION TOUCH	
52	4-957-383-01	KNOB (F14)	
53	X-4947-074-1	KNOB (R48) ASSY	
54	4-980-639-01	KNOB (R14)	
55	X-4948-454-1	PANEL ASSY, FRONT	
56	3-008-600-11	EMBLEM (5-AR), SONY	
* 57	4-989-878-01	BRACKET (VOL)	
* 58	1-665-815-11	BALANCE BOARD	
* 59	1-665-774-11	VOLUME BOARD	
60	4-951-620-01	SCREW (2.6X8), +BVTP	

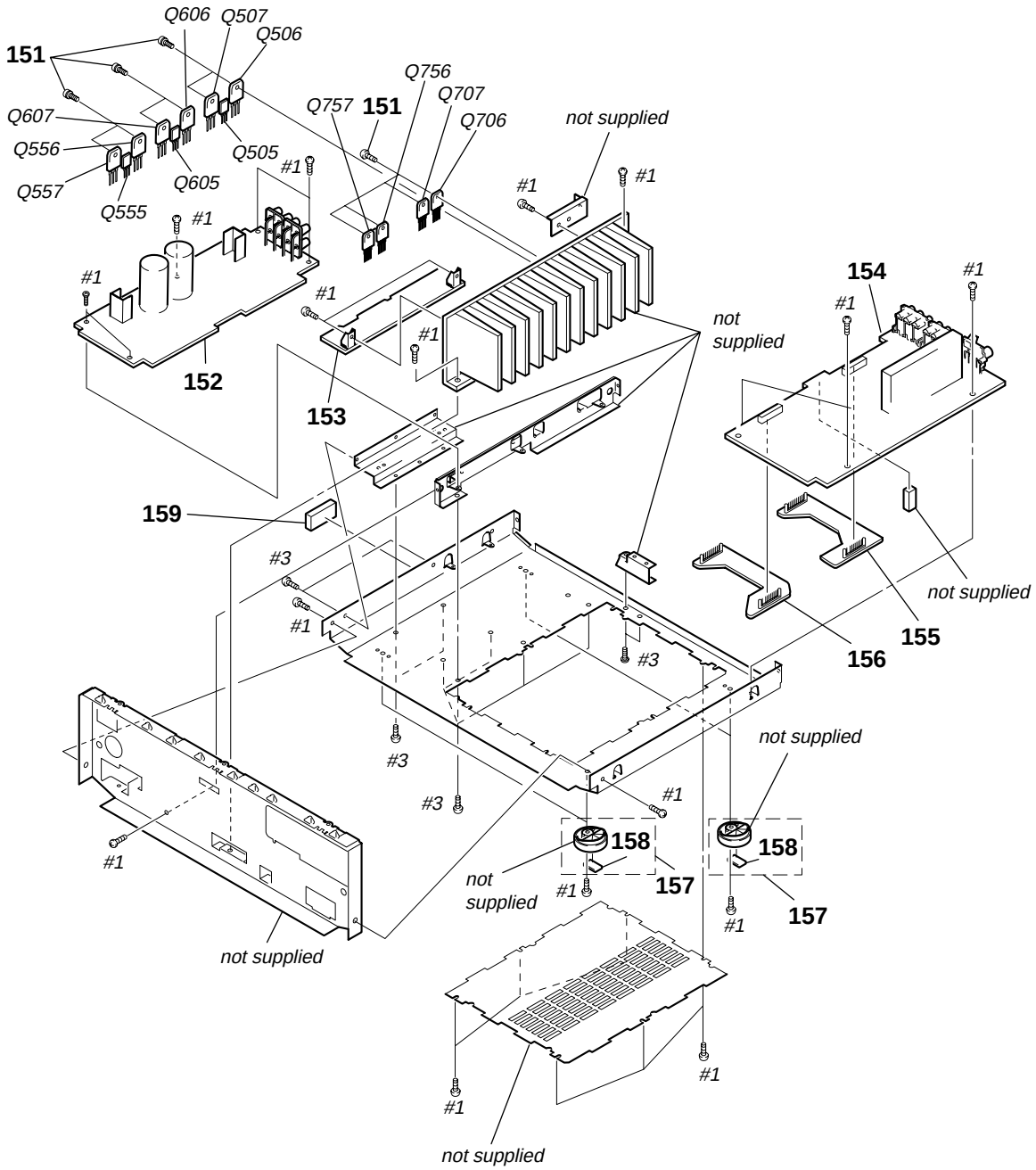
Ref. No.	Part No.	Description	Remark
61	1-773-107-11	WIRE (FLAT TYPE)(19 CORE)(90mm)	
62	1-773-116-11	WIRE (FLAT TYPE)(19 CORE)(170mm)	
63	1-775-173-11	WIRE (FLAT TYPE)(17 CORE)(410mm)	
64	1-773-174-11	WIRE (FLAT TYPE)(21 CORE)(420mm)	
* 65	1-665-780-11	SW BOARD	
* 66	1-665-814-11	L. B SW BOARD	
* 67	1-665-775-11	SP SW BOARD	
* 68	A-4398-253-A	DISPLAY BOARD, COMPLETE	
* 69	4-921-941-01	CUSHION (FL)	
FL101	1-517-671-11	INDICATOR TUBE, FLUORESCENT	

7-3. OSD BOARD SECTION



Ref. No.	Part No.	Description	Remark
* 101	1-665-779-11	HEADPHONE BOARD	
* 102	1-665-777-11	VIDEO3 BOARD	
* 103	4-954-051-41	HOLDER, PC BOARD	
* 104	A-4403-422-A	DIGITAL BOARD, COMPLETE	
105	1-773-279-11	WIRE (FLAT TYPE)(29 CORE)(90mm)	
106	1-773-174-11	WIRE (FLAT TYPE)(21 CORE)(420mm)	
* 107	1-665-776-11	SUR-AUDIO2F BOARD	
* 108	1-665-786-11	AUDIO2F BOARD	
* 109	3-703-353-07	SUPPORT, PC BOARD	
* 110	1-665-796-11	MEMORY BOARD	
* 111	1-666-632-11	JOINT (B) BOARD	
* 112	A-4398-271-A	OSD (V) BOARD, COMPLETE	
* 113	A-4398-272-A	OSD (S) BOARD, COMPLETE	
* 114	A-4398-261-A	PS BOARD, COMPLETE	
* 115	1-665-787-11	S-A-P BOARD	
* 116	A-4398-262-A	SP (2F) BOARD, COMPLETE	
* 117	1-666-159-11	JOINT (OSD) BOARD	

7-4. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
151	3-905-609-01	SCREW (TRANSISTOR)	
* 152	A-4398-267-A	AMP BOARD, COMPLETE	
* 153	A-4398-258-A	REAR AMP BOARD, COMPLETE	
* 154	A-4398-266-A	SUR BOARD, COMPLETE	
* 155	1-665-792-11	AMP JOINT (B) BOARD	
* 156	1-665-791-11	AMP JOINT (F) BOARD	
157	X-4947-208-1	FOOT ASSY (F50150S)	
158	4-977-358-11	CUSHION (8X12.5)	
159	3-831-441-99	CUSHION, STOPPER	
Q505	8-729-209-15	TRANSISTOR 2SD2012	
Q506	8-749-010-25	IC MN2488-OPY-M	
Q507	8-749-010-26	IC MP1620-OPY-M	
Q555	8-729-209-15	TRANSISTOR 2SD2012	
Q556	8-749-010-25	IC MN2488-OPY-M	
Q557	8-749-010-26	IC MP1620-OPY-M	
Q605	8-729-209-15	TRANSISTOR 2SD2012	
Q606	8-749-010-25	IC MN2488-OPY-M	
Q607	8-749-010-26	IC MP1620-OPY-M	
Q706	8-749-010-25	IC MN2488-OPY-M	
Q707	8-749-010-26	IC MP1620-OPY-M	
Q756	8-749-010-25	IC MN2488-OPY-M	
Q757	8-749-010-26	IC MP1620-OPY-M	

SECTION 8
ELECTRICAL PARTS LIST

AMP

Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: µ , for example:
  uA...: µ A..., uPA...: µ PA..., uPB...: µ PB..., uPC...: µ PC..., uPD...: µ PD...
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H
- Abbreviation
  CND : Canadian model

Ref. No.	Part No.	Description			Remark
*	A-4398-267-A	AMP BOARD, COMPLETE			
		**********			
	7-685-872-09	SCREW +BVTT 3X8 (S)			
		< CAPACITOR >			
C520	1-126-967-11	ELECT	47uF	20%	16V
C521	1-107-597-11	CERAMIC	22PF	10%	500V
C522	1-107-597-11	CERAMIC	22PF	10%	500V
C523	1-162-286-31	CERAMIC	220PF	10%	50V
C524	1-126-964-11	ELECT	10uF	20%	50V
C525	1-136-157-00	FILM	0.022uF	5%	50V
C526	1-136-153-00	FILM	0.01uF	5%	50V
C570	1-126-967-11	ELECT	47uF	20%	16V
C571	1-107-597-11	CERAMIC	22PF	10%	500V
C572	1-107-597-11	CERAMIC	22PF	10%	500V
C573	1-162-286-31	CERAMIC	220PF	10%	50V
C574	1-126-964-11	ELECT	10uF	20%	50V
C575	1-136-157-00	FILM	0.022uF	5%	50V
C576	1-136-153-00	FILM	0.01uF	5%	50V
C590	1-126-935-11	ELECT	470uF	20%	6.3V
C598	1-126-965-11	ELECT	22uF	20%	50V
C620	1-126-967-11	ELECT	47uF	20%	16V
C621	1-107-597-11	CERAMIC	22PF	10%	500V
C622	1-107-597-11	CERAMIC	22PF	10%	500V
C623	1-162-286-31	CERAMIC	220PF	10%	50V
C803	1-109-932-11	ELECT	10000uF	20%	71V
C804	1-109-932-11	ELECT	10000uF	20%	71V
C807	1-126-967-11	ELECT	47uF	20%	16V
C808	1-126-967-11	ELECT	47uF	20%	16V
C810	1-126-967-11	ELECT	47uF	20%	16V
C811	1-126-952-11	ELECT	1000uF	20%	35V
C812	1-126-951-11	ELECT	470uF	20%	35V
C817	1-126-967-11	ELECT	47uF	20%	50V
C818	1-126-967-11	ELECT	47uF	20%	50V
		< CONNECTOR >			
CNP701	1-564-320-00	PIN, CONNECTOR (B2P-VH) 2P			
CNP702	1-695-091-11	PIN, CONNECTOR (PC BOARD) 15P			
CNS502	1-770-404-11	HOUSING, CONNECTOR (PC BOARD) 11P			
CNS602	1-770-404-11	HOUSING, CONNECTOR (PC BOARD) 11P			
CNS701	1-569-323-11	SOCKET, CONNECTOR 19P			
		< DIODE >			
D501	8-719-987-63	DIODE 1N4148M			
D502	8-719-010-06	DIODE UZ-2.2BS			
D503	8-719-010-06	DIODE UZ-2.2BS			
D504	8-719-987-63	DIODE 1N4148M			
D505	8-719-987-63	DIODE 1N4148M			
D506	8-719-987-63	DIODE 1N4148M			
D507	8-719-987-63	DIODE 1N4148M			
D508	8-719-987-63	DIODE 1N4148M			
D512	8-719-987-63	DIODE 1N4148M			
D545	8-719-987-63	DIODE 1N4148M			
D546	8-719-987-63	DIODE 1N4148M			
D547	8-719-987-63	DIODE 1N4148M			
D548	8-719-815-85	DIODE 1S1585			
D549	8-719-815-85	DIODE 1S1585			
D551	8-719-987-63	DIODE 1N4148M			
D552	8-719-010-06	DIODE UZ-2.2BS			
D553	8-719-010-06	DIODE UZ-2.2BS			
D554	8-719-987-63	DIODE 1N4148M			
D555	8-719-987-63	DIODE 1N4148M			
D556	8-719-987-63	DIODE 1N4148M			
D601	8-719-987-63	DIODE 1N4148M			
D602	8-719-010-06	DIODE UZ-2.2BS			
D603	8-719-010-06	DIODE UZ-2.2BS			
D604	8-719-987-63	DIODE 1N4148M			
D608	8-719-987-63	DIODE 1N4148M			
D611	8-719-987-63	DIODE 1N4148M			
D647	8-719-987-63	DIODE 1N4148M			
D648	8-719-987-63	DIODE 1N4148M			
D651	8-719-987-63	DIODE 1N4148M			
D711	8-719-987-63	DIODE 1N4148M			
D716	8-719-987-63	DIODE 1N4148M			
D807	8-719-002-73	DIODE UZL-36M			
		< GROUND TERMINAL >			
* EB701	1-537-738-21	TERMINAL, EARTH			
* EB702	1-537-738-21	TERMINAL, EARTH			
* EB703	1-537-738-21	TERMINAL, EARTH			
		< IC >			
IC801	8-759-391-87	IC BA78M12P			
IC802	8-759-391-87	IC BA78M12P			
IC803	8-759-604-45	IC M5F79M12			
		< COIL >			
L501	1-420-872-00	COIL, AIR-CORE			
L551	1-420-872-00	COIL, AIR-CORE			
		< TRANSISTOR >			
Q504	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q505	8-729-209-15	TRANSISTOR 2SD2012			
Q506	8-749-010-25	IC MN2488-OPY-M			
Q507	8-749-010-26	IC MP1620-OPY-M			

AMP | AMP JOINT (B)

Ref. No.	Part No.	Description	Remark
Q508	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q509	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q510	8-729-900-63	TRANSISTOR DTA124ES	
Q511	8-729-900-63	TRANSISTOR DTA124ES	
Q546	8-729-119-79	TRANSISTOR 2SC2785-FEK	
Q547	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q548	8-729-119-79	TRANSISTOR 2SC2785-FEK	
Q549	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q554	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q555	8-729-209-15	TRANSISTOR 2SD2012	
Q556	8-749-010-25	IC MN2488-OPY-M	
Q557	8-749-010-26	IC MP1620-OPY-M	
Q558	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q559	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q560	8-729-900-63	TRANSISTOR DTA124ES	
Q561	8-729-900-63	TRANSISTOR DTA124ES	
Q596	8-729-119-79	TRANSISTOR 2SC2785-FEK	
Q604	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q605	8-729-209-15	TRANSISTOR 2SD2012	
Q606	8-749-010-25	IC MN2488-OPY-M	
Q607	8-749-010-26	IC MP1620-OPY-M	
Q608	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q610	8-729-119-79	TRANSISTOR 2SC2785-FEK	
Q612	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q613	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q614	8-729-201-53	TRANSISTOR 2SA1015-GR	
Q615	8-729-900-36	TRANSISTOR DTC124ES	
Q616	8-729-900-36	TRANSISTOR DTC124ES	
Q617	8-729-900-36	TRANSISTOR DTC124ES	
Q618	8-729-900-63	TRANSISTOR DTA124ES	
Q801	8-729-209-15	TRANSISTOR 2SD2012	
		< RESISTOR >	
R521	1-249-437-11	CARBON 47K 5% 1/4W	
R522	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R523	1-249-414-11	CARBON 560 5% 1/4W	F
⚠R524	1-249-408-11	CARBON 180 5% 1/4W	F
⚠R525	1-249-408-11	CARBON 180 5% 1/4W	F
⚠R526	1-233-352-41	ENCAPSULATED COMPONENT	
R527	1-247-850-11	CARBON 6.2K 5% 1/4W	
R528	1-249-419-11	CARBON 1.5K 5% 1/4W	F
R529	1-247-866-11	CARBON 30K 5% 1/4W	
R530	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R531	1-249-433-11	CARBON 22K 5% 1/4W	
R532	1-249-437-11	CARBON 47K 5% 1/4W	
⚠R533	1-249-393-11	CARBON 10 5% 1/4W	F
⚠R534	1-249-389-11	CARBON 4.7 5% 1/4W	F
R535	1-249-431-11	CARBON 15K 5% 1/4W	
R536	1-249-441-11	CARBON 100K 5% 1/4W	
R539	1-249-427-11	CARBON 6.8K 5% 1/4W	F
R540	1-249-417-11	CARBON 1K 5% 1/4W	F
R541	1-249-429-11	CARBON 10K 5% 1/4W	
R547	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R548	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R549	1-249-393-11	CARBON 10 5% 1/4W	F
R550	1-249-429-11	CARBON 10K 5% 1/4W	
R571	1-249-437-11	CARBON 47K 5% 1/4W	
R572	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R573	1-249-414-11	CARBON 560 5% 1/4W	F
⚠R574	1-249-408-11	CARBON 180 5% 1/4W	F
⚠R575	1-249-408-11	CARBON 180 5% 1/4W	F
⚠R576	1-233-352-41	ENCAPSULATED COMPONENT	
R577	1-247-850-11	CARBON 6.2K 5% 1/4W	
R578	1-249-419-11	CARBON 1.5K 5% 1/4W	F
R579	1-247-866-11	CARBON 30K 5% 1/4W	
R580	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R581	1-249-433-11	CARBON 22K 5% 1/4W	
R582	1-249-437-11	CARBON 47K 5% 1/4W	
⚠R583	1-249-393-11	CARBON 10 5% 1/4W	F
⚠R584	1-249-389-11	CARBON 4.7 5% 1/4W	F
R585	1-249-431-11	CARBON 15K 5% 1/4W	
R586	1-249-429-11	CARBON 10K 5% 1/4W	
R587	1-249-425-11	CARBON 4.7K 5% 1/4W	F
⚠R588	1-249-393-11	CARBON 10 5% 1/4W	F
R597	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R621	1-249-437-11	CARBON 47K 5% 1/4W	
R622	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R623	1-249-414-11	CARBON 560 5% 1/4W	F
⚠R624	1-249-408-11	CARBON 180 5% 1/4W	F
⚠R625	1-249-408-11	CARBON 180 5% 1/4W	F
⚠R626	1-233-352-41	ENCAPSULATED COMPONENT	
R627	1-247-850-11	CARBON 6.2K 5% 1/4W	
R628	1-249-419-11	CARBON 1.5K 5% 1/4W	F
R632	1-249-437-11	CARBON 47K 5% 1/4W	
⚠R640	1-216-450-00	METAL OXIDE 82 5% 2W	F
R641	1-249-441-11	CARBON 100K 5% 1/4W	
⚠R642	1-215-889-00	METAL OXIDE 330 5% 2W	F
R643	1-249-441-11	CARBON 100K 5% 1/4W	
⚠R644	1-215-890-11	METAL OXIDE 470 5% 2W	F
R645	1-249-441-11	CARBON 100K 5% 1/4W	
R650	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R651	1-249-429-11	CARBON 10K 5% 1/4W	
R652	1-249-393-11	CARBON 10 5% 1/4W	F
⚠R739	1-215-868-00	METAL OXIDE 680 5% 1W	F
⚠R789	1-215-868-00	METAL OXIDE 680 5% 1W	F
⚠R802	1-249-381-11	CARBON 1 5% 1/4W	F
R803	1-247-843-11	CARBON 3.3K 5% 1/4W	
		< RELAY >	
RY501	1-515-920-11	RELAY (24V)	
RY502	1-515-920-11	RELAY (24V)	
RY602	1-515-793-11	RELAY	
		< TERMINAL >	
* TM501	1-537-699-11	TERMINAL BOARD (SP)(FRONT SPEAKERS)	
**********			
*	1-665-792-11	AMP JOINT (B) BOARD	
		**********	
		< CONNECTOR >	
CNP601	1-770-553-11	CONNECTOR, BOARD TO BOARD 11P	
CNP602	1-770-553-11	CONNECTOR, BOARD TO BOARD 11P	
**********			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description				Remark
*	1-665-791-11	AMP JOINT (F) BOARD				
		**********				
		< CONNECTOR >				
CNP501	1-770-553-11	CONNECTOR, BOARD TO BOARD 11P				
CNP502	1-770-553-11	CONNECTOR, BOARD TO BOARD 11P				
**********						
*	1-665-786-11	AUDIO2F BOARD				
		**********				
		< CAPACITOR >				
C398	1-162-282-31	CERAMIC	100PF	10%	50V	
C399	1-162-294-31	CERAMIC	0.001uF	10%	50V	
		< CONNECTOR >				
CNS302	1-695-093-11	SOCKET, CONNECTOR 9P				
		< IC >				
IC303	8-759-805-14	IC LC7822				
		< JACK >				
J304	1-766-394-11	JACK, PIN 6P (VIDEO 1 AUDIO IN/OUT, VIDEO 2 AUDIO IN)				
J305	1-766-394-11	JACK, PIN 6P (VIDEO 2 AUDIO OUT, LD/DVD AUDIO IN, TV/DBS AUDIO IN)				
		< RESISTOR >				
R318	1-249-417-11	CARBON	1K	5%	1/4W F	
R319	1-249-417-11	CARBON	1K	5%	1/4W F	
R320	1-249-417-11	CARBON	1K	5%	1/4W F	
R321	1-249-417-11	CARBON	1K	5%	1/4W F	
R322	1-249-417-11	CARBON	1K	5%	1/4W F	
R323	1-249-417-11	CARBON	1K	5%	1/4W F	
R368	1-249-417-11	CARBON	1K	5%	1/4W F	
R369	1-249-417-11	CARBON	1K	5%	1/4W F	
R370	1-249-417-11	CARBON	1K	5%	1/4W F	
R371	1-249-417-11	CARBON	1K	5%	1/4W F	
R372	1-249-417-11	CARBON	1K	5%	1/4W F	
R373	1-249-417-11	CARBON	1K	5%	1/4W F	
R398	1-249-417-11	CARBON	1K	5%	1/4W F	
R399	1-249-425-11	CARBON	4.7K	5%	1/4W F	
**********						
*	1-665-815-11	BALANCE BOARD				
		**********				
		< VARIABLE RESISTOR >				
RV402	1-225-447-11	RES, VAR, CARBON 100K/100K (BALANCE)				
**********						

Ref. No.	Part No.	Description			
*	A-4403-422-A	DIGITAL BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C3101	1-126-964-11	ELECT	10uF	20%	50V
C3102	1-126-964-11	ELECT	10uF	20%	50V
C3103	1-130-467-00	MYLAR	470PF	5%	50V
C3104	1-130-467-00	MYLAR	470PF	5%	50V
C3105	1-126-964-11	ELECT	10uF	20%	50V
C3106	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3107	1-106-351-00	MYLAR	2200PF	5%	200V
C3108	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3110	1-104-665-11	ELECT	100uF	20%	25V
C3111	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C3112	1-126-964-11	ELECT	10uF	20%	50V
C3113	1-126-964-11	ELECT	10uF	20%	50V
C3114	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C3115	1-126-967-11	ELECT	47uF	20%	16V
C3116	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3117	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C3118	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C3119	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C3120	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3121	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3122	1-104-665-11	ELECT	100uF	20%	25V
C3151	1-126-964-11	ELECT	10uF	20%	50V
C3152	1-126-964-11	ELECT	10uF	20%	50V
C3153	1-130-467-00	MYLAR	470PF	5%	50V
C3154	1-130-467-00	MYLAR	470PF	5%	50V
C3155	1-126-964-11	ELECT	10uF	20%	50V
C3156	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3157	1-106-351-00	MYLAR	2200PF	5%	200V
C3158	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3160	1-104-665-11	ELECT	100uF	20%	25V
C3161	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C3162	1-126-964-11	ELECT	10uF	20%	50V
C3163	1-126-964-11	ELECT	10uF	20%	50V
C3164	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C3166	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3301	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3302	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3303	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3304	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C3305	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C3307	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3308	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3309	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3310	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3311	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3314	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3315	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C3316	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C3320	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C3321	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3322	1-163-248-11	CERAMIC CHIP	75PF	5%	50V
C3323	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C3324	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3325	1-165-319-11	CERAMIC CHIP	0.1uF		50V

DIGITAL

Ref. No.	Part No.	Description			Remark
C3326	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C3327	1-136-921-11	FILM	1uF	5%	50V
C3328	1-136-921-11	FILM	1uF	5%	50V
C3330	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3331	1-104-665-11	ELECT	100uF	20%	25V
C3332	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3333	1-126-967-11	ELECT	47uF	20%	16V
C3334	1-130-495-00	MYLAR	0.1uF	5%	50V
C3336	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3337	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C3338	1-163-085-00	CERAMIC CHIP	2PF		50V
C3339	1-126-964-11	ELECT	10uF	20%	50V
C3340	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C3341	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C3342	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3345	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3346	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3347	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3348	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3351	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3352	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3353	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3354	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3355	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3401	1-104-665-11	ELECT	100uF	20%	25V
C3402	1-104-665-11	ELECT	100uF	20%	25V
C3403	1-104-665-11	ELECT	100uF	20%	25V
C3404	1-104-665-11	ELECT	100uF	20%	25V
C3407	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3408	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3409	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C3410	1-130-483-00	MYLAR	0.01uF	5%	50V
C3411	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C3412	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C3413	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C3414	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3415	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3416	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3417	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3418	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3419	1-104-665-11	ELECT	100uF	20%	25V
C3420	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3421	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3422	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3423	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3424	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3425	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3426	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3427	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3429	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3430	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3431	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3432	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3433	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3434	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3435	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3436	1-165-319-11	CERAMIC CHIP	0.1uF		50V

Ref. No.	Part No.	Description			Remark
C3438	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3439	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3440	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3441	1-126-964-11	ELECT	10uF	20%	50V
C3442	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C3443	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3444	1-126-933-11	ELECT	100uF	20%	16V
C3447	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3471	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3472	1-130-490-11	MYLAR	0.039uF	5%	50V
C3475	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3476	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3477	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3478	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3479	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C3480	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C3481	1-126-965-11	ELECT	22uF	20%	50V
C3482	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3483	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3484	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C3485	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3486	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3487	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3488	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3489	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3490	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C3491	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3492	1-126-965-11	ELECT	22uF	20%	50V
C3493	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C3494	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3495	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C3496	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3497	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3498	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3499	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3500	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3501	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3502	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3503	1-110-339-11	MYLAR	220PF	5%	50V
C3504	1-110-339-11	MYLAR	220PF	5%	50V
C3505	1-110-339-11	MYLAR	220PF	5%	50V
C3506	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3507	1-126-964-11	ELECT	10uF	20%	50V
C3508	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C3509	1-110-339-11	MYLAR	220PF	5%	50V
C3510	1-130-477-00	MYLAR	0.0033uF	5%	50V
C3511	1-130-469-00	MYLAR	680PF	5%	50V
C3512	1-110-339-11	MYLAR	220PF	5%	50V
C3513	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3514	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3515	1-110-339-11	MYLAR	220PF	5%	50V
C3516	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3517	1-110-339-11	MYLAR	220PF	5%	50V
C3518	1-110-339-11	MYLAR	220PF	5%	50V
C3519	1-130-477-00	MYLAR	0.0033uF	5%	50V
C3520	1-130-469-00	MYLAR	680PF	5%	50V
C3521	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3525	1-126-964-11	ELECT	10uF	20%	50V

Ref. No.	Part No.	Description			Remark
C3526	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C3527	1-126-964-11	ELECT	10uF	20%	50V
C3531	1-126-964-11	ELECT	10uF	20%	50V
C3532	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3533	1-110-339-11	MYLAR	220PF	5%	50V
C3534	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3535	1-110-339-11	MYLAR	220PF	5%	50V
C3536	1-110-339-11	MYLAR	220PF	5%	50V
C3537	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3538	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3539	1-110-339-11	MYLAR	220PF	5%	50V
C3540	1-130-477-00	MYLAR	0.0033uF	5%	50V
C3541	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3542	1-130-469-00	MYLAR	680PF	5%	50V
C3543	1-110-339-11	MYLAR	220PF	5%	50V
C3544	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3545	1-130-469-00	MYLAR	680PF	5%	50V
C3546	1-130-477-00	MYLAR	0.0033uF	5%	50V
C3547	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3548	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3549	1-110-339-11	MYLAR	220PF	5%	50V
C3550	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3551	1-110-339-11	MYLAR	220PF	5%	50V
C3552	1-110-339-11	MYLAR	220PF	5%	50V
C3553	1-110-339-11	MYLAR	220PF	5%	50V
C3554	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3555	1-110-339-11	MYLAR	220PF	5%	50V
C3556	1-110-339-11	MYLAR	220PF	5%	50V
C3557	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3558	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3559	1-110-339-11	MYLAR	220PF	5%	50V
C3560	1-130-477-00	MYLAR	0.0033uF	5%	50V
C3561	1-130-469-00	MYLAR	680PF	5%	50V
C3562	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3563	1-110-339-11	MYLAR	220PF	5%	50V
C3564	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3565	1-130-477-00	MYLAR	0.0033uF	5%	50V
C3566	1-130-469-00	MYLAR	680PF	5%	50V
C3567	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3568	1-110-339-11	MYLAR	220PF	5%	50V
C3569	1-110-339-11	MYLAR	220PF	5%	50V
C3570	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3571	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3572	1-110-339-11	MYLAR	220PF	5%	50V
C3573	1-126-964-11	ELECT	10uF	20%	50V
C3574	1-126-964-11	ELECT	10uF	20%	50V
C3575	1-126-964-11	ELECT	10uF	20%	50V
C3576	1-126-964-11	ELECT	10uF	20%	50V
C3577	1-126-964-11	ELECT	10uF	20%	50V
C3578	1-126-964-11	ELECT	10uF	20%	50V
C3579	1-126-964-11	ELECT	10uF	20%	50V
C3580	1-126-964-11	ELECT	10uF	20%	50V
C3581	1-126-964-11	ELECT	10uF	20%	50V
C3582	1-126-964-11	ELECT	10uF	20%	50V
C3583	1-126-964-11	ELECT	10uF	20%	50V
C3584	1-126-964-11	ELECT	10uF	20%	50V
C3585	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3586	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3587	1-126-965-11	ELECT	22uF	20%	50V
C3588	1-126-965-11	ELECT	22uF	20%	50V
C3589	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3600	1-126-965-11	ELECT	22uF	20%	50V
C3605	1-126-965-11	ELECT	22uF	20%	50V
C3606	1-126-965-11	ELECT	22uF	20%	50V
C3607	1-126-965-11	ELECT	22uF	20%	50V
C3608	1-126-965-11	ELECT	22uF	20%	50V
C3609	1-126-965-11	ELECT	22uF	20%	50V
C3621	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3650	1-130-467-00	MYLAR	470PF	5%	50V
C3653	1-130-467-00	MYLAR	470PF	5%	50V
C3656	1-130-467-00	MYLAR	470PF	5%	50V
C3659	1-130-467-00	MYLAR	470PF	5%	50V
C3662	1-130-467-00	MYLAR	470PF	5%	50V
C3665	1-130-467-00	MYLAR	470PF	5%	50V

< CONNECTOR >

CN3301	1-569-309-11	SOCKET, CONNECTOR (L TYRE) 21P
CN3302	1-569-309-11	SOCKET, CONNECTOR (L TYRE) 21P
CN3303	1-691-767-11	PLUG (MICRO CONNECTOR) 5P
CN3304	1-691-768-11	PLUG (MICRO CONNECTOR) 6P

< DIODE >

D3303	8-719-061-62	DIODE KV1851
D3401	8-719-951-05	DIODE KV1560
D3402	8-719-801-78	DIODE 1SS184
D3404	8-719-801-78	DIODE 1SS184
D3407	8-719-820-05	DIODE 1SS181
D3409	8-719-801-78	DIODE 1SS184
D3410	8-719-801-78	DIODE 1SS184

< FERRITE BEAD >

FB3401	1-410-397-21	FERRITE BEAD INDUCTOR
FB3402	1-410-397-21	FERRITE BEAD INDUCTOR
FB3403	1-410-397-21	FERRITE BEAD INDUCTOR
FB3404	1-410-397-21	FERRITE BEAD INDUCTOR
FB3405	1-414-813-21	MICRO INDUCTOR
FB3406	1-414-813-21	MICRO INDUCTOR
FB3407	1-414-813-21	MICRO INDUCTOR

< FILTER >

FL3301	1-233-866-11	FILTER, BAND PASS

< IC >

IC3101	8-759-636-55	IC M5218AFP
IC3102	8-759-636-55	IC M5218AFP
IC3103	8-759-636-55	IC M5218AFP
IC3104	8-759-463-77	IC CXD8681M-TP
IC3105	8-759-604-35	IC M5F78M05L
IC3106	8-759-045-17	IC NJM79L05UA
IC3107	8-759-242-70	IC TC7WU04F
IC3108	8-759-233-26	IC TC74HC393AF-TP1
IC3301	8-749-923-05	IC TORX178 (DIGITAL LD/DVD IN OPTICAL)
IC3302	8-749-923-05	IC TORX178 (DIGITAL CD IN OPTICAL)

DIGITAL

Ref. No.	Part No.	Description	Remark
IC3303	8-749-923-05	IC TORX178 (DIGITAL DAT/MD IN OPTICAL)	
IC3304	8-749-923-04	IC TOTX178 (DIGITAL DAT/MD OUT OPTICAL)	
IC3305	8-759-262-03	IC MC14577CF	
IC3306	8-759-636-55	IC M5218AFP	
IC3307	8-759-045-17	IC NJM79L05UA	
IC3308	8-759-463-68	IC SN-PM4007A	
IC3309	8-759-441-94	IC IDT71256SA20Y-TL	
IC3311	8-759-326-72	IC CXD8521M	
IC3313	8-759-236-17	IC TC74HC151AF-TP1	
IC3314	8-759-242-70	IC TC7WU04F (TA)	
IC3401	8-759-370-62	IC CXD8505BQ	
IC3402	8-759-370-62	IC CXD8505BQ	
IC3403	8-759-370-62	IC CXD8505BQ	
IC3407	8-759-233-26	IC TC74HC393AF-TP1	
IC3408	8-759-233-64	IC TC74HCU04AF	
IC3409	8-759-250-81	IC TC5081AP	
IC3410	8-759-446-37	IC DSP56009FJ88F	
IC3411	8-759-436-44	IC IDT71024S20Y-TL	
IC3412	8-759-446-40	IC SSP424023FJ88	
IC3413	8-759-460-87	IC MB90641APF-G-101-BND	
IC3414	8-759-232-65	IC TC74HC157AF	
IC3417	8-759-233-64	IC TC74HCU04AF	
IC3425	8-759-242-70	IC TC7WU04F	
IC3501	8-759-636-55	IC M5218AFP	
IC3502	8-759-636-55	IC M5218AFP	
IC3503	8-759-636-55	IC M5218AFP	
IC3504	8-759-636-55	IC M5218AFP	
IC3505	8-759-636-55	IC M5218AFP	
IC3506	8-759-636-55	IC M5218AFP	
IC3507	8-759-636-55	IC M5218AFP	
IC3508	8-759-636-55	IC M5218AFP	
IC3509	8-759-636-55	IC M5218AFP	
IC3510	8-759-636-55	IC M5218AFP	
IC3511	8-759-636-55	IC M5218AFP	
IC3512	8-759-636-55	IC M5218AFP	
IC3513	8-759-636-55	IC M5218AFP	
IC3514	8-759-636-55	IC M5218AFP	
IC3515	8-759-636-55	IC M5218AFP	
IC3516	8-759-463-71	IC LC7535M-TP	
IC3517	8-759-463-71	IC LC7535M-TP	
		< JACK >	
J3302	1-779-701-11	JACK, PIN 1P (DIGITAL LD/DVD IN AC-3 RF)	
		< COIL >	
L3301	1-410-391-11	INDUCTOR CHIP 68uH	
L3401	1-426-850-11	COIL (RF)	
L3402	1-410-381-11	INDUCTOR CHIP 10uH	
L3403	1-410-381-11	INDUCTOR CHIP 10uH	
L3404	1-410-381-11	INDUCTOR CHIP 10uH	
L3405	1-410-381-11	INDUCTOR CHIP 10uH	
		< TRANSISTOR >	
Q3301	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q3302	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q3303	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3304	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q3305	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q3306	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3307	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q3308	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3309	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q3310	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3311	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q3312	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3313	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q3314	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3315	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q3401	8-729-232-11	TRANSISTOR 2SK302-GR-TE85L	
Q3402	8-729-232-11	TRANSISTOR 2SK302-GR-TE85L	
Q3403	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q3404	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q3405	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q3406	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q3407	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q3501	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3502	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3503	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3504	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3505	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3506	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3511	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3512	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3513	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3514	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3515	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3516	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3517	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3518	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3519	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3520	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3521	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q3522	8-729-107-46	TRANSISTOR 2SC3624A-L15	
		< RESISTOR >	
R3100	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R3101	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R3102	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R3103	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R3104	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R3105	1-216-017-91	METAL GLAZE 47 5% 1/10W	
R3106	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R3107	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R3108	1-216-017-91	METAL GLAZE 47 5% 1/10W	
R3109	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R3110	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R3111	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R3112	1-216-027-00	METAL CHIP 120 5% 1/10W	
R3113	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R3114	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R3115	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R3116	1-216-121-91	METAL GLAZE 1M 5% 1/10W	
R3117	1-216-041-00	METAL CHIP 470 5% 1/10W	
R3118	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R3119	1-216-025-91	METAL GLAZE 100 5% 1/10W	

Ref. No.	Part No.	Description			Remark
R3120	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3121	1-216-043-91	METAL GLAZE	560	5%	1/10W
R3123	1-216-041-00	METAL CHIP	470	5%	1/10W
R3124	1-216-041-00	METAL CHIP	470	5%	1/10W
R3150	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3151	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3152	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3153	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3154	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R3155	1-216-017-91	METAL GLAZE	47	5%	1/10W
R3156	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3157	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R3158	1-216-017-91	METAL GLAZE	47	5%	1/10W
R3159	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3160	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3161	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3162	1-216-027-00	METAL CHIP	120	5%	1/10W
R3163	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3301	1-216-022-00	METAL CHIP	75	5%	1/10W
R3302	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3303	1-216-081-00	METAL CHIP	22K	5%	1/10W
R3304	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3305	1-216-029-00	METAL CHIP	150	5%	1/10W
R3306	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3310	1-216-022-00	METAL CHIP	75	5%	1/10W
R3311	1-216-022-00	METAL CHIP	75	5%	1/10W
R3313	1-216-022-00	METAL CHIP	75	5%	1/10W
R3314	1-216-022-00	METAL CHIP	75	5%	1/10W
R3316	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3317	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3318	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3319	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3320	1-216-043-91	METAL GLAZE	560	5%	1/10W
R3321	1-216-024-00	METAL GLAZE	91	5%	1/10W
R3322	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3323	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3324	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3325	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3326	1-216-029-00	METAL CHIP	150	5%	1/10W
R3327	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3328	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3329	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3330	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3331	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R3332	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3333	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3334	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3335	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3336	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3337	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R3338	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3339	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3340	1-216-081-00	METAL CHIP	22K	5%	1/10W
R3341	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R3342	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W
R3343	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3344	1-216-093-00	METAL CHIP	68K	5%	1/10W
R3345	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3346	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3347	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R3348	1-216-027-00	METAL CHIP	120	5%	1/10W
R3349	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R3350	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R3351	1-216-017-91	METAL GLAZE	47	5%	1/10W
R3352	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3353	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3354	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3355	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3356	1-216-081-00	METAL CHIP	22K	5%	1/10W
R3357	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3358	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3359	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3360	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3361	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3362	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3363	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3364	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3365	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3366	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3367	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3368	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3369	1-216-041-00	METAL CHIP	470	5%	1/10W
R3370	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3371	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3372	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3373	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3374	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3375	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3376	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3377	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3378	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3379	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3380	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3381	1-216-049-91	METAL GLAZE	1K	5%	1/10
R3382	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3383	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R3384	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R3385	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3386	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3387	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3388	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3389	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3390	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3391	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3392	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3393	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3394	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3395	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3396	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3397	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3398	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3399	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3400	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3401	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R3402	1-216-049-91	METAL GLAZE	1K	5%	1/10W

DIGITAL

Ref. No.	Part No.	Description			Remark
R3403	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3404	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3405	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3406	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3407	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3408	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3409	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3410	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R3411	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3412	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3413	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3414	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3415	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3416	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3417	1-216-017-91	METAL GLAZE	47	5%	1/10W
R3418	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3419	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3421	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3422	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3423	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3424	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3425	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3426	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3427	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3428	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3429	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3430	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3431	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3432	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3433	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3434	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3435	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3436	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3437	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3438	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3439	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3440	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3441	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3442	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3443	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3444	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3445	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3446	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3447	1-216-041-00	METAL CHIP	470	5%	1/10W
R3448	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3449	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3450	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3451	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3452	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3453	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3454	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3455	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3456	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3457	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3458	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3459	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3460	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R3461	1-216-295-91	CONDUCTOR, CHIP (2012)			

Ref. No.	Part No.	Description			Remark
R3462	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3465	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3466	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3479	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R3480	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R3501	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R3502	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3503	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3504	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3505	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3506	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3507	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3508	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3509	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3510	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3511	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3512	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R3513	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3514	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3515	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R3516	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3517	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3518	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3519	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3520	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3521	1-216-062-00	METAL CHIP	3.6K	5%	1/10W
R3522	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3523	1-216-054-00	METAL GLAZE	1.6K	5%	1/10W
R3524	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R3525	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R3526	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3527	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3528	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3529	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3530	1-216-081-00	METAL CHIP	22K	5%	1/10W
R3531	1-216-081-00	METAL CHIP	22K	5%	1/10W
R3532	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R3533	1-216-109-00	METAL CHIP	330K	5%	1/10W
R3534	1-216-109-00	METAL CHIP	330K	5%	1/10W
R3535	1-216-062-00	METAL CHIP	3.6K	5%	1/10W
R3536	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R3537	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R3538	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3539	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3540	1-216-054-00	METAL GLAZE	1.6K	5%	1/10W
R3541	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3542	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3543	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3544	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R3545	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R3546	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R3547	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R3548	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R3549	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3550	1-216-081-00	METAL CHIP	22K	5%	1/10W
R3551	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R3552	1-216-073-00	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R3553	1-216-081-00	METAL CHIP	22K	5%	1/10W
R3554	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3555	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3556	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3557	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3558	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3559	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3560	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3561	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R3562	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3563	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3564	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R3565	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3566	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3567	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3568	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3569	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3570	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3571	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3572	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3573	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3574	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3575	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3576	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R3577	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3578	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R3579	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3580	1-216-081-00	METAL CHIP	22K	5%	1/10W
R3581	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R3582	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3583	1-216-081-00	METAL CHIP	22K	5%	1/10W
R3584	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3586	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3587	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3588	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3589	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3590	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3591	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3592	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3594	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R3595	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3596	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R3597	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3598	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3599	1-216-041-00	METAL CHIP	470	5%	1/10W
R3600	1-216-041-00	METAL CHIP	470	5%	1/10W
R3601	1-216-041-00	METAL CHIP	470	5%	1/10W
R3602	1-216-041-00	METAL CHIP	470	5%	1/10W
R3603	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3604	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3605	1-216-041-00	METAL CHIP	470	5%	1/10W
R3606	1-216-041-00	METAL CHIP	470	5%	1/10W
R3607	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3608	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3609	1-216-041-00	METAL CHIP	470	5%	1/10W
R3610	1-216-041-00	METAL CHIP	470	5%	1/10W
R3611	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3612	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3613	1-216-041-00	METAL CHIP	470	5%	1/10W
R3614	1-216-041-00	METAL CHIP	470	5%	1/10W
R3615	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3616	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3617	1-216-041-00	METAL CHIP	470	5%	1/10W
R3618	1-216-041-00	METAL CHIP	470	5%	1/10W
R3619	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3620	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3621	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R3622	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R3623	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R3627	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3628	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3631	1-216-079-00	METAL CHIP	18K	5%	1/10W
R3632	1-216-056-00	METAL GLAZE	2K	5%	1/10W
R3633	1-216-079-00	METAL CHIP	18K	5%	1/10W
R3634	1-216-056-00	METAL GLAZE	2K	5%	1/10W
R3635	1-216-079-00	METAL CHIP	18K	5%	1/10W
R3636	1-216-056-00	METAL GLAZE	2K	5%	1/10W
R3637	1-216-079-00	METAL CHIP	18K	5%	1/10W
R3638	1-216-056-00	METAL GLAZE	2K	5%	1/10W
R3639	1-216-079-00	METAL CHIP	18K	5%	1/10W
R3640	1-216-056-00	METAL GLAZE	2K	5%	1/10W
R3641	1-216-079-00	METAL CHIP	18K	5%	1/10W
R3642	1-216-056-00	METAL GLAZE	2K	5%	1/10W
R3650	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3651	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3652	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3653	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3654	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3655	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3656	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3657	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3658	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3659	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3660	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3661	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3662	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3663	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3664	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3665	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3666	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3667	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3668	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3669	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3670	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3671	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3672	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3673	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3674	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3675	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3676	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3677	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3678	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3679	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3680	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R3681	1-216-073-00	METAL CHIP	10K	5%	1/10W

DIGITAL DISPLAY

Ref. No.	Part No.	Description			Remark
R3682	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3683	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3684	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3701	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R3702	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R3703	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3704	1-216-295-91	CONDUCTOR, CHIP (2012)			
R3706	1-216-295-91	CONDUCTOR, CHIP (2012)			
		< VARIABLE RESISTOR >			
RV3301	1-241-765-11	RES, ADJ, CARBON 22K			
		< VIBRATOR >			
X3302	1-767-434-11	VIBRATOR, CRYSTAL (18.432MHz)			
X3401	1-767-359-11	VIBRATOR, CERAMIC (4MHz)			
X3501	1-767-576-11	VIBRATOR, CRYSTAL (12.288MHz)			
**********					
*	A-4398-253-A	DISPLAY BOARD, COMPLETE			
		**********			
*	4-921-941-01	CUSHION (FL)			
*	4-990-797-01	HOLDER (FL)			
		< CAPACITOR >			
C101	1-164-159-11	CERAMIC	0.1uF		50V
C102	1-164-159-11	CERAMIC	0.1uF		50V
C103	1-164-159-11	CERAMIC	0.1uF		50V
C104	1-164-159-11	CERAMIC	0.1uF		50V
C105	1-164-159-11	CERAMIC	0.1uF		50V
C106	1-164-159-11	CERAMIC	0.1uF		50V
C107	1-164-159-11	CERAMIC	0.1uF		50V
C108	1-126-796-11	ELECT	22uF	20%	50V
C109	1-162-282-31	CERAMIC	100PF	10%	50V
C110	1-126-786-11	ELECT	47uF	20%	16V
C111	1-126-786-11	ELECT	47uF	20%	16V
C112	1-162-282-31	CERAMIC	100PF	10%	50V
C113	1-126-786-11	ELECT	47uF	20%	16V
C115	1-104-905-11	CAPACITOR	0.22F		5.5V
C116	1-164-159-11	CERAMIC	0.1uF		50V
C117	1-164-159-11	CERAMIC	0.1uF		50V
C118	1-162-294-31	CERAMIC	0.001uF	10%	50V
C129	1-164-159-11	CERAMIC	0.1uF		50V
C135	1-126-795-11	ELECT	10uF	20%	50V
C140	1-126-786-11	ELECT	47uF	20%	16V
C141	1-164-159-11	CERAMIC	0.1uF		50V
C142	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CNP101	1-779-365-11	CONNECTOR, PC BOARD (PLUG) 8P			
CNS102	1-770-397-11	HOUSING, CONNECTOR (PC BOARD) 4P			
CNS103	1-779-366-11	CONNECTOR, BOARD TO BOARD 4P			
CNS104	1-569-308-11	SOCKET, CONNECTOR (L TYRE) 19P			
CNS105	1-569-324-11	SOCKET, CONNECTOR 21P			
CNS107	1-568-438-11	SOCKET, CONNECTOR 17P			

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D101	8-719-313-45	DIODE SEL6810A-TH10 (PHONO)	
D102	8-719-313-45	DIODE SEL6810A-TH10 (TUNER)	
D103	8-719-313-45	DIODE SEL6810A-TH10 (CD)	
D104	8-719-313-45	DIODE SEL6810A-TH10 (DAT/MD)	
D105	8-719-313-45	DIODE SEL6810A-TH10 (TAPE)	
D106	8-719-313-45	DIODE SEL6810A-TH10 (TV/DBS)	
D107	8-719-313-45	DIODE SEL6810A-TH10 (LD/DVD)	
D108	8-719-313-45	DIODE SEL6810A-TH10 (VIDEO 3)	
D109	8-719-313-45	DIODE SEL6810A-TH10 (VIDEO 2)	
D110	8-719-313-45	DIODE SEL6810A-TH10 (VIDEO 1)	
D111	8-719-313-45	DIODE SEL6810A-TH10 (DIRECT PASS)	
D113	8-719-313-43	DIODE SEL6210S-TH10 (LEARNING SENSOR)	
D115	8-719-313-45	DIODE SEL6810A-TH10 (SUR)	
D116	8-719-313-45	DIODE SEL6810A-TH10 (EQ)	
D117	8-719-313-45	DIODE SEL6810A-TH10 (INDEX)	
D124	8-719-053-79	DIODE SE1003-C-TP	
D125	8-719-053-79	DIODE SE1003-C-TP	
D126	8-719-053-79	DIODE SE1003-C-TP	
D127	8-719-053-79	DIODE SE1003-C-TP	
D128	8-719-053-79	DIODE SE1003-C-TP	
D129	8-719-053-79	DIODE SE1003-C-TP	
D130	8-719-053-79	DIODE SE1003-C-TP	
D131	8-719-053-79	DIODE SE1003-C-TP	
D133	8-719-987-63	DIODE 1N4148M	
D134	8-719-024-99	DIODE 11ES2-NTA2B	
D135	8-719-057-97	DIODE SEL5923A-TP15 (DISCRETE)	
D136	8-719-987-63	DIODE 1N4148M	
D137	8-719-053-79	DIODE SE1003-C-TP	
D138	8-719-053-79	DIODE SE1003-C-TP	
D139	8-719-987-63	DIODE 1N4148M	
D140	8-719-118-33	PHOTO DIODE PH302D	
D142	8-719-987-63	DIODE 1N4148M	
D143	8-719-987-63	DIODE 1N4148M	
D144	8-719-987-63	DIODE 1N4148M	
		< FLUORESCENT INDICATOR >	
FL101	1-517-671-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC101	8-759-462-46	IC TPS831	
IC103	8-759-457-56	IC MB90673PF-G-206-BND	
IC104	8-759-240-69	IC TC4069UBP	
IC106	8-759-962-08	IC BA6208	
IC107	8-759-075-35	IC TD62C950RF	
IC108	8-759-999-53	IC MSC1164GS-K	
		< COIL >	
L101	1-410-509-11	INDUCTOR 10uH	
L102	1-410-509-11	INDUCTOR 10uH	
		< TRANSISTOR >	
Q101	8-729-900-36	TRANSISTOR DTC124ES	
Q102	8-729-140-96	TRANSISTOR 2SC4094	
Q103	8-729-900-36	TRANSISTOR DTC124ES	
Q106	8-729-900-36	TRANSISTOR DTC124ES	
Q107	8-729-900-36	TRANSISTOR DTC124ES	

Ref. No.	Part No.	Description			Remark
Q108	8-729-900-36	TRANSISTOR DTC124ES			
Q110	8-729-900-36	TRANSISTOR DTC124ES			
Q111	8-729-900-36	TRANSISTOR DTC124ES			
Q112	8-729-900-36	TRANSISTOR DTC124ES			
Q113	8-729-900-36	TRANSISTOR DTC124ES			
Q114	8-729-900-36	TRANSISTOR DTC124ES			
Q115	8-729-900-36	TRANSISTOR DTC124ES			
Q116	8-729-900-36	TRANSISTOR DTC124ES			
Q117	8-729-900-36	TRANSISTOR DTC124ES			
Q118	8-729-900-36	TRANSISTOR DTC124ES			
Q119	8-729-900-36	TRANSISTOR DTC124ES			
Q120	8-729-900-36	TRANSISTOR DTC124ES			
Q121	8-729-900-36	TRANSISTOR DTC124ES			
Q122	8-729-900-36	TRANSISTOR DTC124ES			
Q123	8-729-900-36	TRANSISTOR DTC124ES			
		< RESISTOR >			
R101	1-249-437-11	CARBON	47K	5%	1/4W
R102	1-249-429-11	CARBON	10K	5%	1/4W
R115	1-247-807-31	CARBON	100	5%	1/4W
R116	1-247-807-31	CARBON	100	5%	1/4W
R117	1-247-807-31	CARBON	100	5%	1/4W
R118	1-249-417-11	CARBON	1K	5%	1/4W F
R119	1-249-417-11	CARBON	1K	5%	1/4W F
R120	1-249-417-11	CARBON	1K	5%	1/4W F
R121	1-249-417-11	CARBON	1K	5%	1/4W F
R122	1-249-425-11	CARBON	4.7K	5%	1/4W F
R123	1-249-425-11	CARBON	4.7K	5%	1/4W F
R124	1-249-425-11	CARBON	4.7K	5%	1/4W F
R125	1-249-425-11	CARBON	4.7K	5%	1/4W F
R126	1-249-425-11	CARBON	4.7K	5%	1/4W F
R127	1-249-425-11	CARBON	4.7K	5%	1/4W F
R128	1-249-417-11	CARBON	1K	5%	1/4W F
R130	1-249-429-11	CARBON	10K	5%	1/4W
R131	1-249-419-11	CARBON	1.5K	5%	1/4W F
R141	1-249-441-11	CARBON	100K	5%	1/4W
R142	1-249-441-11	CARBON	100K	5%	1/4W
⚠R143	1-215-861-00	METAL OXIDE	47	5%	1W F
R144	1-249-393-11	CARBON	10	5%	1/4W F
R145	1-247-895-00	CARBON	470K	5%	1/4W
R146	1-247-903-00	CARBON	1M	5%	1/4W
R147	1-249-433-11	CARBON	22K	5%	1/4W
R148	1-247-903-00	CARBON	1M	5%	1/4W
R149	1-249-435-11	CARBON	33K	5%	1/4W
R150	1-249-393-11	CARBON	10	5%	1/4W F
⚠R153	1-249-385-11	CARBON	2.2	5%	1/6W F
⚠R154	1-249-385-11	CARBON	2.2	5%	1/6W F
R155	1-249-411-11	CARBON	330	5%	1/4W
R156	1-249-411-11	CARBON	330	5%	1/4W
R157	1-249-411-11	CARBON	330	5%	1/4W
R158	1-249-411-11	CARBON	330	5%	1/4W
R159	1-249-411-11	CARBON	330	5%	1/4W
R164	1-249-429-11	CARBON	10K	5%	1/4W
R165	1-249-429-11	CARBON	10K	5%	1/4W
R166	1-249-429-11	CARBON	10K	5%	1/4W
R188	1-249-411-11	CARBON	330	5%	1/4W
R189	1-249-413-11	CARBON	470	5%	1/4W F
R190	1-249-415-11	CARBON	680	5%	1/4W F
R191	1-249-417-11	CARBON	1K	5%	1/4W F
R192	1-249-419-11	CARBON	1.5K	5%	1/4W F
R193	1-249-421-11	CARBON	2.2K	5%	1/4W F
R194	1-249-425-11	CARBON	4.7K	5%	1/4W F
R195	1-249-411-11	CARBON	330	5%	1/4W
R196	1-249-413-11	CARBON	470	5%	1/4W F
R197	1-249-415-11	CARBON	680	5%	1/4W F
R198	1-249-417-11	CARBON	1K	5%	1/4W F
R199	1-249-419-11	CARBON	1.5K	5%	1/4W F
RR10	1-249-425-11	CARBON	4.7K	5%	1/4W F
		< SWITCH >			
S123	1-762-751-11	SWITCH, TACTILE (DPC MODE <)			
S124	1-762-751-11	SWITCH, TACTILE (DPC MODE >)			
S125	1-762-751-11	SWITCH, TACTILE (DISPLAY)			
S126	1-762-751-11	SWITCH, TACTILE (FM MODE)			
S127	1-762-751-11	SWITCH, TACTILE (FM/AM)			
S128	1-762-751-11	SWITCH, TACTILE (SHIFT)			
S129	1-762-751-11	SWITCH, TACTILE (DPC MODE ∧)			
S130	1-762-751-11	SWITCH, TACTILE (DPC MODE ∨)			
S131	1-762-751-11	SWITCH, TACTILE (PRESET TUNING –)			
S132	1-762-751-11	SWITCH, TACTILE (TUNING –)			
S133	1-762-751-11	SWITCH, TACTILE (PRESET TUNING +)			
S134	1-762-751-11	SWITCH, TACTILE (TUNING +)			
S151	1-762-751-11	SWITCH, TACTILE (POWER)			
		< VIBRATOR >			
X101	1-567-819-11	VIBRATOR, CERAMIC (4MHz)			
**********					
*	1-665-779-11	HEADPHONE BOARD			
		**********			
		< CONNECTOR >			
* CNP702	1-564-518-11	PLUG, CONNECTOR 3P			
		< JACK >			
J701	1-568-519-41	JACK, LARGE TYPE (PHONES)			
**********					
*	1-666-632-11	JOINT (B) BOARD			
		**********			
		< CONNECTOR >			
CNP213	1-750-180-11	PIN, CONNECTOR (PC BOARD) 5P			
CNP216	1-750-180-11	PIN, CONNECTOR (PC BOARD) 5P			
**********					
*	1-666-159-11	JOINT (OSD) BOARD			
		**********			
		< CONNECTOR >			
CNP211	1-695-089-11	PIN, CONNECTOR (PC BOARD) 11P			
CNP212	1-695-089-11	PIN, CONNECTOR (PC BOARD) 11P			
**********					

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

L.B SW | MEMORY | OSD (S)

Ref. No.	Part No.	Description			Remark
*	1-665-814-11	L.B SW BOARD			
		**********			
		< DIODE >			
D118	8-719-313-45	DIODE SEL6810A-TH10 (BASS BOOST)			
		< RESISTOR >			
R160	1-249-411-11	CARBON	330	5%	1/4W
		< SWITCH >			
S135	1-762-751-11	SWITCH, TACTILE (BASS BOOST)			
**********					
*	1-665-796-11	MEMORY BOARD			
		**********			
		< CAPACITOR >			
C288	1-164-159-11	CERAMIC	0.1uF		50V
C289	1-164-159-11	CERAMIC	0.1uF		50V
C290	1-126-967-11	ELECT	47uF	20%	16V
C291	1-164-159-11	CERAMIC	0.1uF		50V
C294	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CNS205	1-568-844-11	SOCKET, CONNECTOR 29P			
		< IC >			
IC216	8-759-916-94	IC SN74HC373AN			
IC218	8-759-916-94	IC SN74HC373AN			
IC220	8-759-485-58	IC MX23C4096-12-97C			
IC221	8-759-289-94	IC LH5160TF			
IC222	8-759-289-94	IC LH5160TF			
		< COIL >			
L204	1-410-521-11	INDUCTOR 100uH			
L205	1-410-521-11	INDUCTOR 100uH			
		< RESISTOR >			
R227	1-249-417-11	CARBON	1K	5%	1/4W F
R264	1-249-417-11	CARBON	1K	5%	1/4W F
R2012	1-249-429-11	CARBON	10K	5%	1/4W
R2013	1-249-429-11	CARBON	10K	5%	1/4W
R2014	1-249-429-11	CARBON	10K	5%	1/4W
**********					
*	A-4398-272-A	OSD (S) BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C204	1-164-159-11	CERAMIC	0.1uF		50V
C205	1-164-159-11	CERAMIC	0.1uF		50V
C207	1-162-306-11	CERAMIC	0.01uF	20%	16V
C209	1-164-159-11	CERAMIC	0.1uF		50V
C210	1-126-960-11	ELECT	1uF	20%	50V
C214	1-164-159-11	CERAMIC	0.1uF		50V
C215	1-164-159-11	CERAMIC	0.1uF		50V
C216	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description			Remark
C217	1-126-967-11	ELECT	47uF	20%	16V
C221	1-126-964-11	ELECT	10uF	20%	50V
C222	1-162-294-31	CERAMIC	0.001uF	10%	50V
C225	1-162-306-11	CERAMIC	0.01uF	20%	16V
C227	1-126-964-11	ELECT	10uF	20%	50V
C229	1-126-960-11	ELECT	1uF	20%	50V
C232	1-162-306-11	CERAMIC	0.01uF	20%	16V
C238	1-126-967-11	ELECT	47uF	20%	16V
C239	1-164-159-11	CERAMIC	0.1uF		50V
C245	1-164-159-11	CERAMIC	0.1uF		50V
C246	1-164-159-11	CERAMIC	0.1uF		50V
C261	1-102-074-00	CERAMIC	0.001uF	10%	50V
C269	1-164-159-11	CERAMIC	0.1uF		50V
C270	1-124-252-00	ELECT	0.33uF	20%	50V
C274	1-126-967-11	ELECT	47uF	20%	16V
C275	1-126-967-11	ELECT	47uF	20%	16V
C276	1-104-905-11	CAPACITOR	0.22F		5.5V
C277	1-162-306-11	CERAMIC	0.01uF	20%	16V
C278	1-126-960-11	ELECT	1uF	20%	50V
C280	1-164-159-11	CERAMIC	0.1uF		50V
C295	1-164-159-11	CERAMIC	0.1uF		50V
C297	1-126-923-11	ELECT	220uF	20%	10V
C2001	1-126-967-11	ELECT	47uF	20%	16V
C2238	1-102-074-00	CERAMIC	0.001uF	10%	50V
		< CONNECTOR >			
CNJ203	1-568-440-11	SOCKET, CONNECTOR 17P			
CNJ204	1-568-844-11	SOCKET, CONNECTOR 29P			
* CNJ214	1-564-509-11	PLUG, CONNECTOR 6P			
CNS211	1-695-094-11	SOCKET, CONNECTOR 11P			
CNS213	1-750-179-11	SOCKET, CONNECTOR 5P			
		< DIODE >			
D202	8-719-987-63	DIODE 1N4148M			
D203	8-719-987-63	DIODE 1N4148M			
D204	8-719-987-63	DIODE 1N4148M			
D205	8-719-024-99	DIODE 11ES2-NTA2B			
D210	8-719-987-63	DIODE 1N4148M			
		< IC >			
IC201	8-759-135-80	IC uPC358C			
IC203	8-759-061-95	IC SN761200N			
IC204	8-759-061-95	IC SN761200N			
IC207	8-759-708-05	IC NJM78L05A			
IC209	8-759-426-13	IC MB90672PF-G-125-BND			
IC215	8-759-488-36	IC LC86F5864A-5F53			
IC217	8-759-604-35	IC M5F78M05L			
IC219	8-759-917-18	IC SN74HCU04AN			
IC223	8-759-388-26	IC NJM2129D			
		< JACK >			
J202	1-563-330-11	JACK (S-LINK CTRL A1)			
J204	1-537-943-11	TERMINAL, S (MONITOR S VIDEO OUT)			
J205	1-537-943-11	TERMINAL, S (LD/DVD S VIDEO IN)			
J207	1-691-964-11	CONNECTOR (ROUND TYPE) (VIDEO 1 S VIDEO IN/OUT)			
J212	1-563-330-11	JACK (VIDEO 1 CTRL S OUT)			
J213	1-563-330-11	JACK (VIDEO 2 CTRL S OUT)			
J214	1-563-330-11	JACK (MONITOR CTRL S IN)			

Ref. No.	Part No.	Description				Remark
		< COIL >				
L203	1-410-521-11	INDUCTOR 100uH				
L288	1-410-521-11	INDUCTOR 100uH				
L289	1-410-521-11	INDUCTOR 100uH				
		< TRANSISTOR >				
Q1	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q201	8-729-900-36	TRANSISTOR DTC124ES				
Q204	8-729-141-30	TRANSISTOR 2SC3623A-LK				
Q205	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q208	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q209	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q211	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q212	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q220	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q222	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q223	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q225	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q226	8-729-119-76	TRANSISTOR 2SA1175-HFE				
		< RESISTOR >				
R1	1-249-413-11	CARBON	470	5%	1/4W	F
R2	1-249-413-11	CARBON	470	5%	1/4W	F
R6	1-247-843-11	CARBON	3.3K	5%	1/4W	
R7	1-249-429-11	CARBON	10K	5%	1/4W	
R208	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R209	1-249-429-11	CARBON	10K	5%	1/4W	
R214	1-249-429-11	CARBON	10K	5%	1/4W	
R215	1-249-403-11	CARBON	68	5%	1/4W	
R218	1-249-403-11	CARBON	68	5%	1/4W	
R219	1-249-403-11	CARBON	68	5%	1/4W	
R220	1-249-409-11	CARBON	220	5%	1/4W	
R221	1-249-414-11	CARBON	560	5%	1/4W	F
R222	1-249-414-11	CARBON	560	5%	1/4W	F
R223	1-249-409-11	CARBON	220	5%	1/4W	
R224	1-249-433-11	CARBON	22K	5%	1/4W	
R225	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R228	1-249-411-11	CARBON	330	5%	1/4W	
R229	1-249-417-11	CARBON	1K	5%	1/4W	F
R231	1-249-417-11	CARBON	1K	5%	1/4W	F
R234	1-249-426-11	CARBON	5.6K	5%	1/4W	
R235	1-249-429-11	CARBON	10K	5%	1/4W	
R238	1-249-403-11	CARBON	68	5%	1/4W	
R240	1-249-403-11	CARBON	68	5%	1/4W	
R241	1-249-417-11	CARBON	1K	5%	1/4W	F
R244	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R245	1-249-417-11	CARBON	1K	5%	1/4W	F
R248	1-249-403-11	CARBON	68	5%	1/4W	
R249	1-249-413-11	CARBON	470	5%	1/4W	F
R251	1-249-403-11	CARBON	68	5%	1/4W	
R255	1-249-430-11	CARBON	12K	5%	1/4W	
R256	1-249-417-11	CARBON	1K	5%	1/4W	F
R257	1-249-403-11	CARBON	68	5%	1/4W	
R284	1-247-843-11	CARBON	3.3K	5%	1/4W	
R286	1-247-903-00	CARBON	1M	5%	1/4W	
R291	1-249-429-11	CARBON	10K	5%	1/4W	
R292	1-249-393-11	CARBON	10	5%	1/4W	F
R293	1-249-429-11	CARBON	10K	5%	1/4W	
R294	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R295	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R297	1-247-843-11	CARBON	3.3K	5%	1/4W	
R298	1-249-429-11	CARBON	10K	5%	1/4W	
R299	1-249-417-11	CARBON	1K	5%	1/4W	F
⚠R2001	1-215-857-11	METAL OXIDE	10	5%	1W	F
R2008	1-249-429-11	CARBON	10K	5%	1/4W	
R2015	1-247-807-31	CARBON	100	5%	1/4W	
R2016	1-249-429-11	CARBON	10K	5%	1/4W	
R2017	1-249-429-11	CARBON	10K	5%	1/4W	
R2018	1-249-429-11	CARBON	10K	5%	1/4W	
R2019	1-249-429-11	CARBON	10K	5%	1/4W	
R2020	1-247-807-31	CARBON	100	5%	1/4W	
R2031	1-247-807-31	CARBON	100	5%	1/4W	
R2032	1-247-807-31	CARBON	100	5%	1/4W	
R2033	1-247-807-31	CARBON	100	5%	1/4W	
R2034	1-247-807-31	CARBON	100	5%	1/4W	
R2035	1-247-807-31	CARBON	100	5%	1/4W	
R2036	1-247-807-31	CARBON	100	5%	1/4W	
R2037	1-247-807-31	CARBON	100	5%	1/4W	
R2038	1-247-807-31	CARBON	100	5%	1/4W	
R2039	1-247-807-31	CARBON	100	5%	1/4W	
R2040	1-247-807-31	CARBON	100	5%	1/4W	
R2041	1-247-807-31	CARBON	100	5%	1/4W	
R2042	1-247-807-31	CARBON	100	5%	1/4W	
R2043	1-247-807-31	CARBON	100	5%	1/4W	
R2044	1-247-807-31	CARBON	100	5%	1/4W	
R2045	1-247-807-31	CARBON	100	5%	1/4W	
R2046	1-247-807-31	CARBON	100	5%	1/4W	
R2047	1-247-807-31	CARBON	100	5%	1/4W	
R2048	1-247-807-31	CARBON	100	5%	1/4W	
R2049	1-247-807-31	CARBON	100	5%	1/4W	
R2050	1-247-807-31	CARBON	100	5%	1/4W	
R2051	1-247-807-31	CARBON	100	5%	1/4W	
R2052	1-247-807-31	CARBON	100	5%	1/4W	
R2053	1-247-807-31	CARBON	100	5%	1/4W	
		< TEST PIN >				
* TP204	1-560-062-00	PIN, CONNECTOR 4P				
TP205	1-691-766-11	PLUG (MICRO CONNECTOR) 4P				
		< VIBRATOR >				
X201	1-567-819-11	VIBRATOR, CERAMIC (4MHz)				
X205	1-567-776-41	VIBRATOR, CERAMIC (6MHz)				
**********						
*	A-4398-271-A	OSD (V) BOARD, COMPLETE				
		**********				
		< CAPACITOR >				
C200	1-126-964-11	ELECT	10uF	20%	50V	
C203	1-102-518-11	CERAMIC	33PF	5%	50V	
C206	1-102-852-91	CERAMIC	47PF	5%	50V	
C208	1-126-964-11	ELECT	10uF	20%	50V	
C211	1-162-290-31	CERAMIC	470PF	10%	50V	

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Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

OSD (V)

Ref. No.	Part No.	Description			Remark
C212	1-126-933-11	ELECT	100uF	20%	10V
C213	1-164-159-11	CERAMIC	0.1uF		50V
C224	1-162-294-31	CERAMIC	0.001uF	10%	50V
C226	1-126-964-11	ELECT	10uF	20%	50V
C231	1-102-106-00	CERAMIC	100PF	10%	50V
C235	1-164-095-11	CERAMIC	0.01uF	10%	16V
C236	1-102-958-00	CERAMIC	20PF	5%	50V
C237	1-102-074-00	CERAMIC	0.001uF	10%	50V
C241	1-102-958-00	CERAMIC	20PF	5%	50V
C242	1-164-095-11	CERAMIC	0.01uF	10%	16V
C243	1-126-963-11	ELECT	4.7uF	20%	50V
C244	1-102-508-91	CERAMIC	10PF	0.5PF	50V
C247	1-162-282-31	CERAMIC	100PF	10%	50V
C248	1-126-960-11	ELECT	1uF	20%	50V
C249	1-136-162-00	FILM	0.056uF	5%	50V
C250	1-136-157-00	FILM	0.022uF	5%	50V
C251	1-164-159-11	CERAMIC	0.1uF		50V
C252	1-126-967-11	ELECT	47uF	20%	16V
C253	1-126-960-11	ELECT	1uF	20%	50V
C254	1-102-106-00	CERAMIC	100PF	10%	50V
C255	1-136-169-00	FILM	0.22uF	5%	50V
C256	1-126-960-11	ELECT	1uF	20%	50V
C257	1-126-960-11	ELECT	1uF	20%	50V
C258	1-126-960-11	ELECT	1uF	20%	50V
C259	1-162-306-11	CERAMIC	0.01uF	20%	16V
C260	1-162-293-31	CERAMIC	820PF	10%	50V
C262	1-126-960-11	ELECT	1uF	20%	50V
C263	1-102-106-00	CERAMIC	100PF	10%	50V
C264	1-126-964-11	ELECT	10uF	20%	50V
C265	1-126-964-11	ELECT	10uF	20%	50V
C266	1-126-964-11	ELECT	10uF	20%	50V
C267	1-126-960-11	ELECT	1uF	20%	50V
C268	1-126-967-11	ELECT	47uF	20%	16V
C271	1-126-960-11	ELECT	1uF	20%	50V
C272	1-136-162-00	FILM	0.056uF	5%	50V
C273	1-164-159-11	CERAMIC	0.1uF		50V
C279	1-126-964-11	ELECT	10uF	20%	50V
C283	1-136-157-00	FILM	0.022uF	5%	50V
C284	1-162-306-11	CERAMIC	0.01uF	20%	16V
C285	1-126-960-11	ELECT	1uF	20%	50V
C286	1-162-293-31	CERAMIC	820PF	10%	50V
C287	1-126-967-11	ELECT	47uF	20%	16V
C292	1-162-282-31	CERAMIC	100PF	10%	50V
C293	1-126-964-11	ELECT	10uF	20%	50V
C296	1-126-923-11	ELECT	220uF	20%	10V
		< CONNECTOR >			
CNP202	1-691-766-11	PLUG (MICRO CONNECTOR) 4P			
* CNP214	1-564-509-11	PLUG, CONNECTOR 6P			
CNS212	1-695-094-11	SOCKET, CONNECTOR 11P			
CNS216	1-750-179-11	SOCKET, CONNECTOR 5P			
		< TRIMMER >			
CT201	1-141-227-00	CAP, TRIMMER 20PF			
CT202	1-141-227-00	CAP, TRIMMER 20PF			
		< DIODE >			
D201	8-719-987-63	DIODE 1N4148M			
D206	8-719-987-63	DIODE 1N4148M			
		< IC >			
IC202	8-759-140-53	IC uPD4053BC			
IC205	8-759-459-81	IC MB90095PF-G-186-BND			
IC206	8-759-916-12	IC SN74HC00AN			
IC208	8-759-140-53	IC uPD4053BC			
IC210	8-759-341-79	IC LA7217			
IC211	8-759-061-95	IC SN761200			
IC213	8-759-341-79	IC LA7217			
IC214	8-759-093-25	IC MB3512PFQ			
		< JACK >			
J203	1-563-330-11	JACK (IR OUT)			
J209	1-766-400-11	JACK, PIN 2P (VIDEO 2 VIDEO IN/OUT)			
J210	1-766-399-11	JACK, PIN 3P (VIDEO 1 VIDEO IN/OUT, MONITOR OUT)			
J211	1-766-400-11	JACK, PIN 2P (TV/DBS VIDEO IN, LD/DVD VIDEO IN)			
		< COIL >			
L201	1-410-513-11	INDUCTOR 22uH			
		< TRANSISTOR >			
Q200	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q202	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q203	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q206	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q207	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q210	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q214	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q215	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q216	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q217	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q218	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q219	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q221	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q230	8-729-620-05	TRANSISTOR 2SC2603-EF			
		< RESISTOR >			
R200	1-249-417-11	CARBON	1K	5%	1/4W F
R205	1-247-807-31	CARBON	100	5%	1/4W
R206	1-247-807-31	CARBON	100	5%	1/4W
R207	1-249-409-11	CARBON	220	5%	1/4W F
R210	1-249-424-11	CARBON	3.9K	5%	1/4W F
R211	1-249-437-11	CARBON	47K	5%	1/4W
R212	1-249-418-11	CARBON	1.2K	5%	1/4W F
R213	1-249-421-11	CARBON	2.2K	5%	1/4W F
R216	1-249-437-11	CARBON	47K	5%	1/4W
R217	1-249-437-11	CARBON	47K	5%	1/4W
R226	1-249-433-11	CARBON	22K	5%	1/4W
R230	1-249-411-11	CARBON	330	5%	1/4W
R232	1-249-409-11	CARBON	220	5%	1/4W F
R233	1-249-426-11	CARBON	5.6K	5%	1/4W
R237	1-249-429-11	CARBON	10K	5%	1/4W
R239	1-249-403-11	CARBON	68	5%	1/4W F
R242	1-249-433-11	CARBON	22K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R243	1-249-419-11	CARBON	1.5K	5%	1/4W F
R246	1-247-843-11	CARBON	3.3K	5%	1/4W
R247	1-249-403-11	CARBON	68	5%	1/4W F
R250	1-249-417-11	CARBON	1K	5%	1/4W F
R252	1-249-414-11	CARBON	560	5%	1/4W F
R253	1-249-417-11	CARBON	1K	5%	1/4W F
R254	1-249-430-11	CARBON	12K	5%	1/4W
R258	1-249-414-11	CARBON	560	5%	1/4W F
R259	1-249-417-11	CARBON	1K	5%	1/4W F
R260	1-249-425-11	CARBON	4.7K	5%	1/4W F
R261	1-249-433-11	CARBON	22K	5%	1/4W
R262	1-247-883-00	CARBON	150K	5%	1/4W
R263	1-249-414-11	CARBON	560	5%	1/4W F
R265	1-249-414-11	CARBON	560	5%	1/4W F
R266	1-249-403-11	CARBON	68	5%	1/4W F
R267	1-249-424-11	CARBON	3.9K	5%	1/4W F
R268	1-249-403-11	CARBON	68	5%	1/4W F
R269	1-249-403-11	CARBON	68	5%	1/4W F
R270	1-249-426-11	CARBON	5.6K	5%	1/4W
R271	1-249-426-11	CARBON	5.6K	5%	1/4W
R272	1-249-426-11	CARBON	5.6K	5%	1/4W
R274	1-249-403-11	CARBON	68	5%	1/4W F
R275	1-249-403-11	CARBON	68	5%	1/4W F
R276	1-249-419-11	CARBON	1.5K	5%	1/4W F
R277	1-249-419-11	CARBON	1.5K	5%	1/4W F
R278	1-249-419-11	CARBON	1.5K	5%	1/4W F
R279	1-249-403-11	CARBON	68	5%	1/4W F
R280	1-249-403-11	CARBON	68	5%	1/4W F
R281	1-249-403-11	CARBON	68	5%	1/4W F
R282	1-249-403-11	CARBON	68	5%	1/4W F
R283	1-249-403-11	CARBON	68	5%	1/4W F
R287	1-247-807-31	CARBON	100	5%	1/4W
R288	1-249-430-11	CARBON	12K	5%	1/4W
R289	1-249-430-11	CARBON	12K	5%	1/4W
R290	1-249-430-11	CARBON	12K	5%	1/4W
R296	1-247-843-11	CARBON	3.3K	5%	1/4W
R2000	1-249-437-11	CARBON	47K	5%	1/4W
R2002	1-249-417-11	CARBON	1K	5%	1/4W F
R2003	1-247-883-00	CARBON	150K	5%	1/4W
R2004	1-249-424-11	CARBON	3.9K	5%	1/4W F
R2005	1-249-414-11	CARBON	560	5%	1/4W F
R2007	1-249-409-11	CARBON	220	5%	1/4W F
R2009	1-249-409-11	CARBON	220	5%	1/4W F
R2010	1-249-409-11	CARBON	220	5%	1/4W F
R2011	1-249-409-11	CARBON	220	5%	1/4W F
R2023	1-249-417-11	CARBON	1K	5%	1/4W F
		< VARIABLE RESISTOR >			
RV201	1-241-766-11	RES, ADJ, CERMET 47K			
		< TEST PIN >			
* TP203	1-560-061-00	PIN, CONNECTOR 3P			
		< VIBRATOR >			
X203	1-527-722-00	VIBRATOR, CRYSTAL(14.3MHz)			
X204	1-579-583-11	VIBRATOR, CERAMIC (503kHz)			

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Ref. No.	Part No.	Description			Remark
*	A-4398-261-A	PS BOARD, COMPLETE			
		**********			
	7-685-872-09	SCREW +BVTT 3X8 (S)			
		< CAPACITOR >			
C901	1-136-157-00	FILM	0.022uF	5%	50V
C902	1-136-157-00	FILM	0.022uF	5%	50V
C903	1-126-768-11	ELECT	2200uF	20%	16V
C904	1-126-960-11	ELECT	1uF	20%	50V
C905	1-126-959-11	ELECT	0.47uF	20%	50V
C906	1-124-464-11	ELECT	0.22uF	20%	50V
C913	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
⚠CNJ901	1-540-060-11	OUTLET, AC (POLAR)(AC OUTLET)			
CNP903	1-564-321-00	PIN, CONNECTOR 2P			
CNP905	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P			
		< DIODE >			
D901	8-719-024-99	DIODE 11ES2-NTA2B			
D902	8-719-024-99	DIODE 11ES2-NTA2B			
D903	8-719-024-99	DIODE 11ES2-NTA2B			
D904	8-719-024-99	DIODE 11ES2-NTA2B			
D905	8-719-987-63	DIODE 1N4148M			
D906	8-719-987-63	DIODE 1N4148M			
D907	8-719-987-63	DIODE 1N4148M			
		< GROUND TERMINAL >			
* EB900	1-537-738-21	TERMINAL, EARTH			
		< FUSE >			
⚠F901	1-533-311-11	FUSE, GLASS CYLINDRICAL(DIA.5)(8.0A, 125V)			
		< FUSE HOLDER >			
FH901	1-533-217-31	HOLDER, FUSE			
FH951	1-533-217-31	HOLDER, FUSE			
		< IC >			
IC901	8-759-333-83	IC NJM2103D			
		< TRANSISTOR >			
Q901	8-729-119-79	TRANSISTOR 2SC2785-FEK			
Q902	8-729-209-15	TRANSISTOR 2SD2012			
		< RESISTOR >			
⚠R901	1-202-725-00	SOLID	3.3M	10%	1/2W
R902	1-249-429-11	CARBON	10K	5%	1/4W
R903	1-249-425-11	CARBON	4.7K	5%	1/4W F
R904	1-249-417-11	CARBON	1K	5%	1/4W F
R905	1-249-428-11	CARBON	8.2K	5%	1/4W F
R906	1-249-421-11	CARBON	2.2K	5%	1/4W F
R908	1-249-433-11	CARBON	22K	5%	1/4W
R909	1-249-439-11	CARBON	68K	5%	1/4W
R910	1-249-437-11	CARBON	47K	5%	1/4W
R912	1-249-430-11	CARBON	12K	5%	1/4W

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PS REAR AMP S-A-P SECONDARY

Ref. No.	Part No.	Description			Remark
		< RELAY >			
⚠RY901	1-515-999-11	RELAY, POWER			
		< TRANSFORMER >			
⚠T902	1-431-430-11	TRANSFORMER, POWER			
**********					
*	A-4398-258-A	REAR AMP BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C701	1-126-964-11	ELECT	10uF	20%	50V
C702	1-162-282-31	CERAMIC	100PF	10%	50V
C703	1-102-233-00	CERAMIC	33PF	10%	500V
C705	1-126-933-11	ELECT	100uF	20%	10V
C720	1-126-967-11	ELECT	47uF	20%	16V
C721	1-107-597-11	CERAMIC	22PF	10%	500V
C722	1-107-597-11	CERAMIC	22PF	10%	500V
C723	1-162-286-31	CERAMIC	220PF	10%	50V
C751	1-126-964-11	ELECT	10uF	20%	50V
C752	1-162-282-31	CERAMIC	100PF	10%	50V
C753	1-102-233-00	CERAMIC	33PF	10%	500V
C755	1-126-933-11	ELECT	100uF	20%	10V
C770	1-126-967-11	ELECT	47uF	20%	16V
C771	1-107-597-11	CERAMIC	22PF	10%	500V
C772	1-107-597-11	CERAMIC	22PF	10%	500V
C773	1-162-286-31	CERAMIC	220PF	10%	50V
C793	1-126-923-11	ELECT	220uF	20%	10V
C798	1-128-560-11	ELECT	22uF	20%	100V
C799	1-128-560-11	ELECT	22uF	20%	100V
		< CONNECTOR >			
CNP704	1-564-320-00	PIN, CONNECTOR (B2P-VH) 2P			
* CNP705	1-564-242-00	PIN, CONNECTOR 5P			
CNP706	1-564-320-00	PIN, CONNECTOR (B2P-VH) 2P			
CNS704	1-564-510-11	PLUG, CONNECTOR 7P			
		< DIODE >			
D701	8-719-987-63	DIODE 1N4148M			
D702	8-719-010-06	DIODE UZ-2.2BS			
D703	8-719-010-06	DIODE UZ-2.2BS			
D704	8-719-987-63	DIODE 1N4148M			
D751	8-719-987-63	DIODE 1N4148M			
D752	8-719-010-06	DIODE UZ-2.2BS			
D753	8-719-010-06	DIODE UZ-2.2BS			
D754	8-719-987-63	DIODE 1N4148M			
		< IC >			
IC701	8-759-326-52	IC uPC2581V			
		< TRANSISTOR >			
Q701	8-729-900-80	TRANSISTOR DTC114ES			
Q703	8-729-422-57	TRANSISTOR UN4111			
Q704	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q705	8-729-141-30	TRANSISTOR 2SC3623A-LK			
Q706	8-749-010-25	IC MN2488-OPY-M			
Q707	8-749-010-26	IC MP1620-OPY-M			
Q708	8-729-140-82	TRANSISTOR 2SA988-PAFAEA			
Q754	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q755	8-729-141-30	TRANSISTOR 2SC3623A-LK			
Q756	8-749-010-25	IC MN2488-OPY-M			
Q757	8-749-010-26	IC MP1620-OPY-M			
Q758	8-729-140-82	TRANSISTOR 2SA988-PAFAEA			
		< RESISTOR >			
R701	1-249-417-11	CARBON	1K	5%	1/4W F
R702	1-249-439-11	CARBON	68K	5%	1/4W
R703	1-249-439-11	CARBON	68K	5%	1/4W
R704	1-247-807-31	CARBON	100	5%	1/4W
R721	1-249-437-11	CARBON	47K	5%	1/4W
R722	1-249-421-11	CARBON	2.2K	5%	1/4W F
R723	1-249-414-11	CARBON	560	5%	1/4W F
⚠R724	1-249-408-11	CARBON	180	5%	1/4W F
⚠R725	1-249-408-11	CARBON	180	5%	1/4W F
⚠R726	1-233-352-41	ENCAPSULATED	COMPONENT		
R727	1-247-850-11	CARBON	6.2K	5%	1/4W
R728	1-249-419-11	CARBON	1.5K	5%	1/4W F
R732	1-249-437-11	CARBON	47K	5%	1/4W
R751	1-249-417-11	CARBON	1K	5%	1/4W F
R752	1-249-439-11	CARBON	68K	5%	1/4W
R753	1-249-439-11	CARBON	68K	5%	1/4W
R754	1-247-807-31	CARBON	100	5%	1/4W
R771	1-249-437-11	CARBON	47K	5%	1/4W
R772	1-249-421-11	CARBON	2.2K	5%	1/4W F
R773	1-249-414-11	CARBON	560	5%	1/4W F
⚠R774	1-249-408-11	CARBON	180	5%	1/4W F
⚠R775	1-249-408-11	CARBON	180	5%	1/4W F
⚠R776	1-233-352-41	ENCAPSULATED	COMPONENT		
R777	1-247-850-11	CARBON	6.2K	5%	1/4W
R778	1-249-419-11	CARBON	1.5K	5%	1/4W F
R782	1-249-437-11	CARBON	47K	5%	1/4W
R790	1-249-417-11	CARBON	1K	5%	1/4W F
R794	1-249-425-11	CARBON	4.7K	5%	1/4W F
⚠R798	1-249-393-11	CARBON	10	5%	1/4W F
⚠R799	1-249-393-11	CARBON	10	5%	1/4W F
**********					
*	1-665-787-11	S-A-P BOARD			
		**********			
		< CONNECTOR >			
CNP703	1-695-089-11	PIN, CONNECTOR (PC BOARD) 11P			
CNS702	1-695-096-11	SOCKET, CONNECTOR 15P			
CNS905	1-695-092-11	SOCKET, CONNECTOR 7P			
**********					
*	1-665-783-11	SECONDARY BOARD			
		**********			
		< CAPACITOR >			
C801	1-104-664-11	ELECT	47uF	20%	25V
C805	1-137-424-11	FILM	0.22uF	10%	100V
C806	1-137-424-11	FILM	0.22uF	10%	100V
C850	1-137-416-11	FILM	0.01uF	10%	100V
C851	1-137-416-11	FILM	0.01uF	10%	100V

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Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CNP801	1-564-905-11	PIN, CONNECTOR 9P	
CNP811	1-691-765-11	PLUG (MICRO CONNECTOR) 3P	
		< DIODE >	
D801	8-719-302-38	DIODE RBV-602-01	
D802	8-719-024-99	DIODE 11ES2-NTA2B	
D803	8-719-024-99	DIODE 11ES2-NTA2B	
D804	8-719-024-99	DIODE 11ES2-NTA2B	
D805	8-719-024-99	DIODE 11ES2-NTA2B	
D806	8-719-014-66	DIODE UZP-5.6B	
D851	8-719-302-38	DIODE RBV-602-01	
		< FUSE >	
⚠F950	1-533-311-11	FUSE, GLASS CYLINDRICAL(DIA.5)(8.0A, 125V)	
⚠F951	1-533-311-11	FUSE, GLASS CYLINDRICAL(DIA.5)(8.0A, 125V)	
		< FUSE HOLDER >	
FH905	1-533-217-31	HOLDER, FUSE	
FH906	1-533-217-31	HOLDER, FUSE	
FH955	1-533-217-31	HOLDER, FUSE	
FH956	1-533-217-31	HOLDER, FUSE	
		<MICRO FUSE>	
⚠PS901	1-533-909-11	FUSE, MICRO (4A/125V)	
⚠PS902	1-533-909-11	FUSE, MICRO (4A/125V)	
⚠PS903	1-533-909-11	FUSE, MICRO (4A/125V)	
		< TRANSFORMER >	
⚠T901	1-431-281-11	TRANSFORMER, POWER (US)	
⚠T901	1-431-282-11	TRANSFORMER, POWER (CND)	

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*	A-4398-262-A	SP (2F) BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C624	1-126-964-11	ELECT	10uF	20%	50V
C625	1-136-157-00	FILM	0.022uF	5%	50V
C626	1-136-153-00	FILM	0.01uF	5%	50V
C706	1-126-951-11	ELECT	470uF	20%	35V
C707	1-104-664-11	ELECT	47uF	20%	25V
C724	1-126-964-11	ELECT	10uF	20%	50V
C725	1-136-157-00	FILM	0.022uF	5%	50V
C726	1-136-153-00	FILM	0.01uF	5%	50V
C775	1-136-157-00	FILM	0.022uF	5%	50V
		< CONNECTOR >			
CNJ701	1-774-136-11	CONNECTOR, ROUND TYPE 6P (WIRELESS REAR SPEAKER)			
CNP603	1-564-320-00	PIN, CONNECTOR (B2P-VH) 2P			
CNS703	1-695-094-11	SOCKET, CONNECTOR 11P			
		< DIODE >			
D543	8-719-987-63	DIODE 1N4148M			
D605	8-719-987-63	DIODE 1N4148M			
D606	8-719-987-63	DIODE 1N4148M			
D607	8-719-987-63	DIODE 1N4148M			
D649	8-719-987-63	DIODE 1N4148M			
D705	8-719-987-63	DIODE 1N4148M			
D706	8-719-987-63	DIODE 1N4148M			
D707	8-719-002-06	DIODE UZL-18L			
D749	8-719-987-63	DIODE 1N4148M			
		< JACK >			
J501	1-770-377-31	JACK, PIN 1P (WOOFER AUDIO OUT)			
		< COIL >			
L601	1-420-872-00	COIL, AIR-CORE			
L701	1-420-872-00	COIL, AIR-CORE			
L751	1-420-872-00	COIL, AIR-CORE			
		< TRANSISTOR >			
Q544	8-729-119-79	TRANSISTOR 2SC2785-FEK			
Q609	8-729-281-53	TRANSISTOR 2SC1815-GR			
Q610	8-729-900-63	TRANSISTOR DTA124ES			
Q611	8-729-900-63	TRANSISTOR DTA124ES			
Q645	8-729-119-79	TRANSISTOR 2SC2785-FEK			
Q709	8-729-281-53	TRANSISTOR 2SC1815-GR			
Q710	8-729-900-63	TRANSISTOR DTA124ES			
Q745	8-729-119-79	TRANSISTOR 2SC2785-FEK			
Q748	8-729-209-15	TRANSISTOR 2SD2012			
		< RESISTOR >			
R543	1-249-429-11	CARBON	10K	5%	1/4W
R544	1-249-425-11	CARBON	4.7K	5%	1/4W F
⚠R545	1-249-393-11	CARBON	10	5%	1/4W F
R546	1-249-425-11	CARBON	4.7K	5%	1/4W F
R629	1-247-866-11	CARBON	30K	5%	1/4W
R630	1-249-421-11	CARBON	2.2K	5%	1/4W F
R631	1-249-433-11	CARBON	22K	5%	1/4W
⚠R633	1-249-393-11	CARBON	10	5%	1/4W F
⚠R634	1-249-389-11	CARBON	4.7	5%	1/4W F
R635	1-249-431-11	CARBON	15K	5%	1/4W
R636	1-249-433-11	CARBON	22K	5%	1/4W
R647	1-249-429-11	CARBON	10K	5%	1/4W
R648	1-249-425-11	CARBON	4.7K	5%	1/4W F
⚠R649	1-249-393-11	CARBON	10	5%	1/4W F
R729	1-247-866-11	CARBON	30K	5%	1/4W
R730	1-249-421-11	CARBON	2.2K	5%	1/4W F
R731	1-249-433-11	CARBON	22K	5%	1/4W
⚠R733	1-249-393-11	CARBON	10	5%	1/4W F
⚠R734	1-249-389-11	CARBON	4.7	5%	1/4W F
R735	1-249-431-11	CARBON	15K	5%	1/4W
R737	1-249-417-11	CARBON	1K	5%	1/4W
R738	1-247-887-00	CARBON	220K	5%	1/4W
R746	1-249-417-11	CARBON	1K	5%	1/4W F
R747	1-249-429-11	CARBON	10K	5%	1/4W
R748	1-249-425-11	CARBON	4.7K	5%	1/4W F
R749	1-249-393-11	CARBON	10	5%	1/4W F
⚠R783	1-249-393-11	CARBON	10	5%	1/4W F
⚠R784	1-249-389-11	CARBON	4.7	5%	1/4W F
R787	1-249-417-11	CARBON	1K	5%	1/4W
R788	1-247-887-00	CARBON	220K	5%	1/4W

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SP (2F) **SP SW** **SUR**

Ref. No.	Part No.	Description			Remark
		< RELAY >			
RY503	1-515-793-11	RELAY			
RY601	1-515-920-11	RELAY (24V)			
RY701	1-515-920-11	RELAY (24V)			
		< SWITCH >			
S501	1-692-196-11	SWITCH, SLIDE (IMPEDANCE SELECTOR)			
		< TERMINAL >			
TM701	1-537-881-11	TERMINAL BOARD (6P)(SURROUND SPEAKERS)			
**********					
*	1-665-775-11	SP SW BOARD			
		**********			
		< CONNECTOR >			
* CNS101	1-695-808-11	CONNECTOR, PC BOARD 8P			
		< DIODE >			
D152	8-719-987-63	DIODE 1N4148M			
D153	8-719-987-63	DIODE 1N4148M			
		< SWITCH >			
S136	1-762-751-11	SWITCH, TACTILE (DPC MODE)			
S155	1-762-268-11	SWITCH, ROTARY (SPEAKERS)			
**********					
*	A-4398-266-A	SUR BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C301	1-126-963-11	ELECT	4.7uF	20%	50V
C302	1-162-282-31	CERAMIC	100PF	10%	50V
C303	1-126-967-11	ELECT	47uF	20%	16V
C304	1-130-480-00	MYLAR	0.0056uF	5%	50V
C305	1-106-347-00	MYLAR	1500PF	5%	200V
C306	1-126-960-11	ELECT	1uF	20%	50V
C307	1-164-159-11	CERAMIC	0.1uF		50V
C351	1-126-963-11	ELECT	4.7uF	20%	50V
C352	1-162-282-31	CERAMIC	100PF	10%	50V
C353	1-126-967-11	ELECT	47uF	20%	16V
C354	1-130-480-00	MYLAR	0.0056uF	5%	50V
C355	1-106-347-00	MYLAR	1500PF	5%	200V
C356	1-126-960-11	ELECT	1uF	20%	50V
C357	1-164-159-11	CERAMIC	0.1uF		50V
C394	1-126-967-11	ELECT	47uF	20%	16V
C395	1-126-967-11	ELECT	47uF	20%	16V
C396	1-164-070-11	CERAMIC	100PF	5%	50V
C397	1-162-294-31	CERAMIC	0.001uF	10%	50V
C401	1-128-547-11	ELECT	6800uF	20%	16V
C402	1-126-935-11	ELECT	470uF	20%	16V
C403	1-126-935-11	ELECT	470uF	20%	16V
C404	1-130-495-00	FILM	0.1uF	5%	50V
C405	1-130-495-00	FILM	0.1uF	5%	50V
C407	1-126-964-11	ELECT	10uF	20%	50V
C408	1-164-159-11	CERAMIC	0.1uF		50V
C409	1-130-495-00	MYLAR	0.1uF	5%	50V
C410	1-130-495-00	MYLAR	0.1uF	5%	50V
C457	1-126-964-11	ELECT	10uF	20%	50V
C458	1-164-159-11	CERAMIC	0.1uF		50V
C501	1-126-964-11	ELECT	10uF	20%	50V
C502	1-164-070-11	CERAMIC	100PF	5%	50V
C503	1-107-601-11	CERAMIC	33PF	5%	500V
C504	1-164-040-11	CERAMIC	4PF	0.25PF	50V
C505	1-126-933-11	ELECT	100uF	20%	16V
C551	1-126-964-11	ELECT	10uF	20%	50V
C552	1-164-070-11	CERAMIC	100PF	5%	50V
C553	1-107-601-11	CERAMIC	33PF	5%	500V
C554	1-164-040-11	CERAMIC	4PF	0.25PF	50V
C555	1-126-933-11	ELECT	100uF	20%	16V
C593	1-126-923-11	ELECT	220uF	20%	10V
C594	1-128-560-11	ELECT	22uF	20%	100V
C595	1-128-560-11	ELECT	22uF	20%	100V
C601	1-126-964-11	ELECT	10uF	20%	50V
C602	1-162-282-31	CERAMIC	100PF	10%	50V
C603	1-102-989-00	CERAMIC	68PF	5%	500V
C604	1-164-040-11	CERAMIC	4PF	0.25PF	50V
C605	1-126-967-11	ELECT	47uF	20%	16V
C606	1-102-989-00	CERAMIC	68PF	5%	500V
C607	1-126-964-11	ELECT	10uF	20%	50V
		< CONNECTOR >			
CNP250	1-691-765-11	PLUG (MICRO CONNECTOR) 3P			
CNP303	1-695-088-11	PIN, CONNECTOR (PC BOARD) 9P			
CNS401	1-569-323-11	SOCKET, CONNECTOR 19P			
CNS403	1-569-324-11	SOCKET, CONNECTOR 21P			
CNS404	1-691-765-11	PLUG (MICRO CONNECTOR) 3P			
CNS405	1-691-767-11	PLUG (MICRO CONNECTOR) 5P			
CNS406	1-691-768-11	PLUG (MICRO CONNECTOR) 6P			
CNS501	1-770-404-11	HOUSING, CONNECTOR (PC BOARD) 11P			
CNS502	1-770-404-11	HOUSING, CONNECTOR (PC BOARD) 11P			
CNS601	1-770-404-11	HOUSING, CONNECTOR (PC BOARD) 11P			
		< DIODE >			
D401	8-719-987-63	DIODE 1N4148M			
D402	8-719-025-03	DIODE RBA-402-SL			
D403	8-719-024-99	DIODE 11ES2-NTA2B			
		< GROUND TERMINAL >			
* EB401	1-537-738-21	TERMINAL, EARTH			
* EB402	1-537-738-21	TERMINAL, EARTH			
		< IC >			
IC301	8-759-805-14	IC LC7822			
IC302	8-759-636-74	IC M5218AP-22			
IC304	8-759-636-74	IC M5218AP-22			
IC401	8-759-231-53	IC TA7805S			
IC402	8-759-231-53	IC TA7805S			
IC501	8-759-326-52	IC uPC2581V			
IC601	8-749-011-16	IC STK350-230			
IC602	8-759-636-74	IC M5218AP-22			

Ref. No.	Part No.	Description			Remark
		< JACK >			
J302	1-766-394-11	JACK, PIN 6P (DAT/MD RECOUT, CD IN, PHONO IN)			
J303	1-766-394-11	JACK, PIN 6P (DAT/MD IN, TAPE RECOUT/IN)			
		< TRANSISTOR >			
Q401	8-729-141-30	TRANSISTOR 2SC3623A-LK			
Q410	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q411	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q451	8-729-141-30	TRANSISTOR 2SC3623A-LK			
Q503	8-729-422-57	TRANSISTOR UN4111			
Q512	8-729-900-80	TRANSISTOR DTC114ES			
		< RESISTOR >			
R301	1-249-409-11	CARBON	220	5%	1/4W F
R302	1-249-441-11	CARBON	100K	5%	1/4W
R303	1-249-441-11	CARBON	100K	5%	1/4W
R304	1-249-416-11	CARBON	820	5%	1/4W F
R305	1-247-897-11	CARBON	560K	5%	1/4W
R306	1-249-437-11	CARBON	47K	5%	1/4W
R307	1-249-441-11	CARBON	100K	5%	1/4W
R308	1-247-807-31	CARBON	100	5%	1/4W
R310	1-249-417-11	CARBON	1K	5%	1/4W F
R311	1-249-417-11	CARBON	1K	5%	1/4W F
R312	1-249-417-11	CARBON	1K	5%	1/4W F
R313	1-249-417-11	CARBON	1K	5%	1/4W F
R314	1-249-417-11	CARBON	1K	5%	1/4W F
R315	1-249-437-11	CARBON	47K	5%	1/4W
R351	1-249-409-11	CARBON	220	5%	1/4W F
R352	1-249-441-11	CARBON	100K	5%	1/4W
R353	1-249-441-11	CARBON	100K	5%	1/4W
R354	1-249-416-11	CARBON	820	5%	1/4W F
R355	1-247-897-11	CARBON	560K	5%	1/4W
R356	1-249-437-11	CARBON	47K	5%	1/4W
R357	1-249-441-11	CARBON	100K	5%	1/4W
R358	1-247-807-31	CARBON	100	5%	1/4W
R360	1-249-417-11	CARBON	1K	5%	1/4W F
R361	1-249-417-11	CARBON	1K	5%	1/4W F
R362	1-249-417-11	CARBON	1K	5%	1/4W F
R363	1-249-417-11	CARBON	1K	5%	1/4W F
R364	1-249-417-11	CARBON	1K	5%	1/4W F
R365	1-249-437-11	CARBON	47K	5%	1/4W
R396	1-249-417-11	CARBON	1K	5%	1/4W F
R397	1-249-425-11	CARBON	4.7K	5%	1/4W F
R412	1-249-425-11	CARBON	4.7K	5%	1/4W F
R449	1-249-425-11	CARBON	4.7K	5%	1/4W F
R450	1-249-441-11	CARBON	100K	5%	1/4W
R462	1-249-425-11	CARBON	4.7K	5%	1/4W F
R483	1-249-441-11	CARBON	100K	5%	1/4W
R484	1-249-429-11	CARBON	10K	5%	1/4W
R486	1-249-437-11	CARBON	47K	5%	1/4W
R490	1-249-433-11	CARBON	22K	5%	1/4W
R491	1-249-429-11	CARBON	10K	5%	1/4W
R492	1-249-416-11	CARBON	820	5%	1/4W F
R501	1-249-417-11	CARBON	1K	5%	1/4W F
R502	1-249-439-11	CARBON	68K	5%	1/4W
R503	1-249-439-11	CARBON	68K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R504	1-249-411-11	CARBON	330	5%	1/4W
R551	1-249-417-11	CARBON	1K	5%	1/4W F
R552	1-249-439-11	CARBON	68K	5%	1/4W
R553	1-249-439-11	CARBON	68K	5%	1/4W
R554	1-249-411-11	CARBON	330	5%	1/4W
R590	1-249-417-11	CARBON	1K	5%	1/4W F
⚠R592	1-249-381-11	CARBON	1	5%	1/4W F
⚠R593	1-249-381-11	CARBON	1	5%	1/4W F
R594	1-249-425-11	CARBON	4.7K	5%	1/4W F
R601	1-249-417-11	CARBON	1K	5%	1/4W F
R602	1-249-439-11	CARBON	68K	5%	1/4W
R603	1-247-807-31	CARBON	100	5%	1/4W
R604	1-249-439-11	CARBON	68K	5%	1/4W
R605	1-249-413-11	CARBON	470	5%	1/4W F
R606	1-249-439-11	CARBON	68K	5%	1/4W
R607	1-249-417-11	CARBON	1K	5%	1/4W F
R608	1-249-431-11	CARBON	15K	5%	1/4W
		< RELAY >			
RY401	1-515-614-11	RELAY			
		< TERMINAL >			
TM401	1-694-265-11	TERMINAL BOARD, ANT (ANTENNA)			
		< FM/AM TUNER >			
TU401	1-233-592-11	ENCAPSULATED COMPONENT			
**********					
*	1-665-776-11	SUR-AUDIO2F BOARD **********			
		< CONNECTOR >			
CNP302	1-695-088-11	PIN, CONNECTOR (PC BOARD) 9P			
CNS303	1-695-093-11	SOCKET, CONNECTOR 9P			
**********					
*	1-665-780-11	SW BOARD ********			
		< CONNECTOR >			
CNP103	1-770-397-11	HOUSING, CONNECTOR(PC BOARD)4P			
		< RESISTOR >			
R169	1-249-411-11	CARBON	330	5%	1/4W
R170	1-249-413-11	CARBON	470	5%	1/4W F
R171	1-249-415-11	CARBON	680	5%	1/4W F
R172	1-249-417-11	CARBON	1K	5%	1/4W F
R173	1-249-419-11	CARBON	1.5K	5%	1/4W F
R174	1-249-421-11	CARBON	2.2K	5%	1/4W F
R175	1-249-425-11	CARBON	4.7K	5%	1/4W F
R176	1-249-411-11	CARBON	330	5%	1/4W
R177	1-249-413-11	CARBON	470	5%	1/4W F
R178	1-249-415-11	CARBON	680	5%	1/4W F
R179	1-249-417-11	CARBON	1K	5%	1/4W F
R180	1-249-419-11	CARBON	1.5K	5%	1/4W F
R181	1-249-421-11	CARBON	2.2K	5%	1/4W F

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

SW VIDEO3 VOLUME

Ref. No.	Part No.	Description			Remark
R182	1-249-411-11	CARBON	330	5%	1/4W
R183	1-249-413-11	CARBON	470	5%	1/4W F
R184	1-249-415-11	CARBON	680	5%	1/4W F
R185	1-249-417-11	CARBON	1K	5%	1/4W F
R186	1-249-419-11	CARBON	1.5K	5%	1/4W F
R187	1-249-421-11	CARBON	2.2K	5%	1/4W F
		< SWITCH >			
S105	1-762-751-11	SWITCH, TACTILE (DIRECT PASS)			
S106	1-762-751-11	SWITCH, TACTILE (GENRE)			
S107	1-762-751-11	SWITCH, TACTILE (SET UP)			
S108	1-762-751-11	SWITCH, TACTILE (MODE)			
S113	1-762-751-11	SWITCH, TACTILE (AUDIO FUNCTION <)			
S114	1-762-751-11	SWITCH, TACTILE (SOUND FIELD ON/OFF)			
S115	1-762-751-11	SWITCH, TACTILE (AUDIO FUNCTION >)			
S120	1-762-751-11	SWITCH, TACTILE (VIDEO FUNCTION <)			
S121	1-762-751-11	SWITCH, TACTILE (INPUT MODE)			
S122	1-762-751-11	SWITCH, TACTILE (VIDEO FUNCTION >)			
*	1-665-777-11	VIDEO3 BOARD **********			
		< CAPACITOR >			
C299	1-164-159-11	CERAMIC	0.1uF		50V
		< JACK >			
J299	1-764-190-11	JACK, PIN 3P (VIDEO 3 INPUT)			
		< RESISTOR >			
R297	1-249-403-11	CARBON	68	5%	1/4W F
R298	1-249-403-11	CARBON	68	5%	1/4W F
R299	1-249-403-11	CARBON	68	5%	1/4W F
R316	1-249-417-11	CARBON	1K	5%	1/4W F
R366	1-249-417-11	CARBON	1K	5%	1/4W F
*	1-665-774-11	VOLUME BOARD **********			
		< CONNECTOR >			
CNP102	1-770-388-11	PIN, CONNECTOR (PC BOARD) 4P			
CNS402	1-569-323-11	SOCKET, CONNECTOR 19P			
		< RESISTOR >			
R499	1-249-411-11	CARBON	330	5%	1/4W
		< VARIABLE RESISTOR >			
RV401	1-225-445-11	RES, VAR, CARBON 100KX6 (MASTER VOLUME)			

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS **********	
61	1-773-107-11	WIRE (FLAT TYPE)(19 CORE)(90mm)	
62	1-773-116-11	WIRE (FLAT TYPE)(19 CORE)(170mm)	
63	1-775-173-11	WIRE (FLAT TYPE)(17 CORE)(410mm)	
64	1-773-174-11	WIRE (FLAT TYPE)(21 CORE)(420mm)	
105	1-773-279-11	WIRE (FLAT TYPE)(29 CORE)(90mm)	
106	1-773-174-11	WIRE (FLAT TYPE)(21 CORE)(420mm)	
⚠CNP901	1-769-743-11	CORD, POWER	
FL101	1-517-671-11	INDICATOR TUBE, FLUORESCENT	
Q505	8-729-209-15	TRANSISTOR 2SD2012	
Q506	8-749-010-25	IC MN2488-OPY-M	
Q507	8-749-010-26	IC MP1620-OPY-M	
Q555	8-729-209-15	TRANSISTOR 2SD2012	
Q556	8-749-010-25	IC MN2488-OPY-M	
Q557	8-749-010-26	IC MP1620-OPY-M	
Q605	8-729-209-15	TRANSISTOR 2SD2012	
Q606	8-749-010-25	IC MN2488-OPY-M	
Q607	8-749-010-26	IC MP1620-OPY-M	
Q706	8-749-010-25	IC MN2488-OPY-M	
Q707	8-749-010-26	IC MP1620-OPY-M	
Q756	8-749-010-25	IC MN2488-OPY-M	
Q757	8-749-010-26	IC MP1620-OPY-M	
⚠T901	1-431-281-11	TRANSFORMER, POWER (US)	
⚠T901	1-431-282-11	TRANSFORMER, POWER (CND)	
		ACCESSORIES & PACKING MATERIALS **********	
	1-475-133-11	REMOTE COMMANDER (RM-H501)	
	1-475-324-11	RAY-CATCHER UNIT (WITH PLUG)	
	1-501-374-11	ANTENNA, LOOP	
	1-751-619-11	CORD, CONNECTION (VIDEO 1.5m)	
	1-777-172-11	CORD, CONNECTION (CONTROL A1)	
	3-810-765-11	MANUAL,COMMONNESS INSTRUCTION (ENGLISH)(US)	
	3-810-765-21	MANUAL,COMMONNESS INSTRUCTION (ENGLISH,FRENCH,GERMAN,SPANISH,DUTCH, SWEDISH,ITALIAN,PORTUGUESE,CHINESE) (CND)	
	3-860-819-11	MANUAL, INSTRUCTION (ENGLISH)	
	3-860-819-22	MANUAL, INSTRUCTION (FRENCH)(CND)	
	4-983-536-01	COVER, BATTERY (For RM-H501)	
		********** HARDWARE LIST **********	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 TT(B)	
#2	7-685-881-09	SCREW +BVTT 4X8 (S)	
#3	7-685-872-09	SCREW +BVTT 3X8 (S)	

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9-920-943-11

Sony Corporation
Home A&V Products Company

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